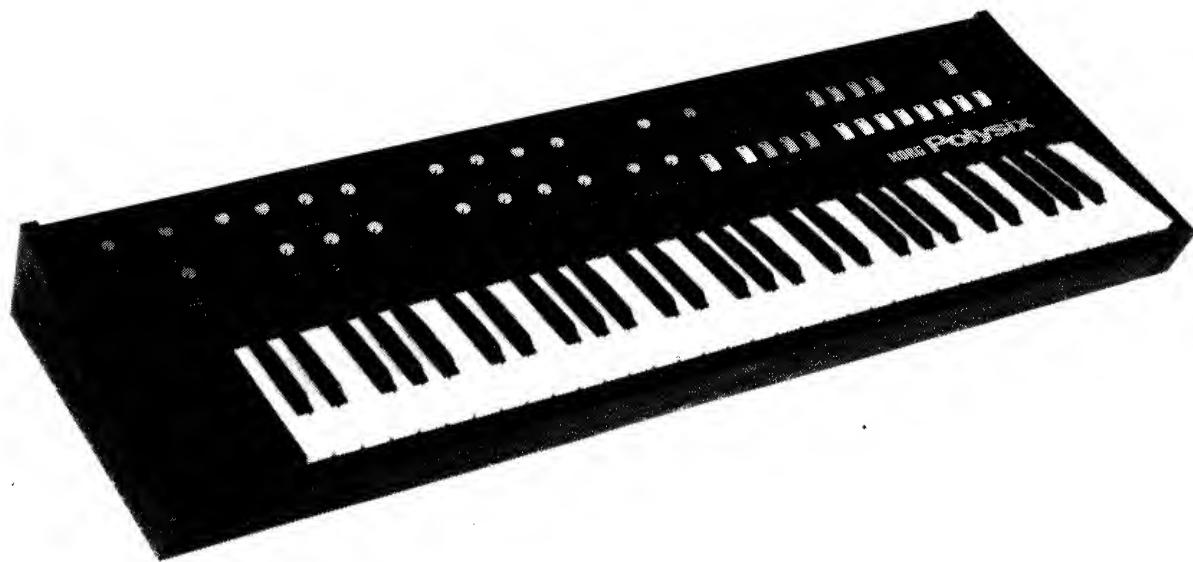


**KORG**<sup>®</sup>



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**PROGRAMMABLE 6VOC  
SYNTHESIZER  
SERVICE MANUAL**

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**POLYSIX**

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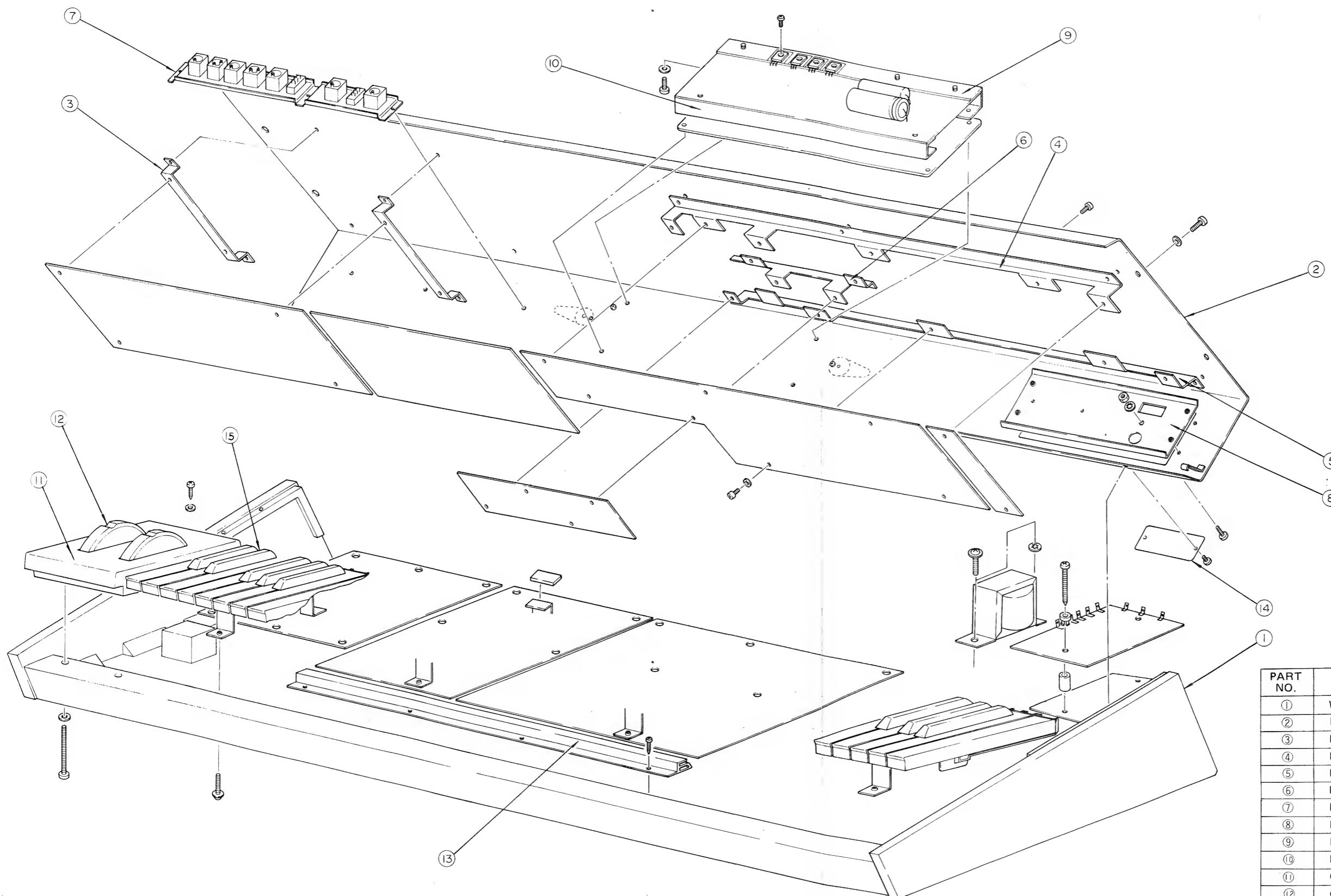
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# 1. SPECIFICATIONS

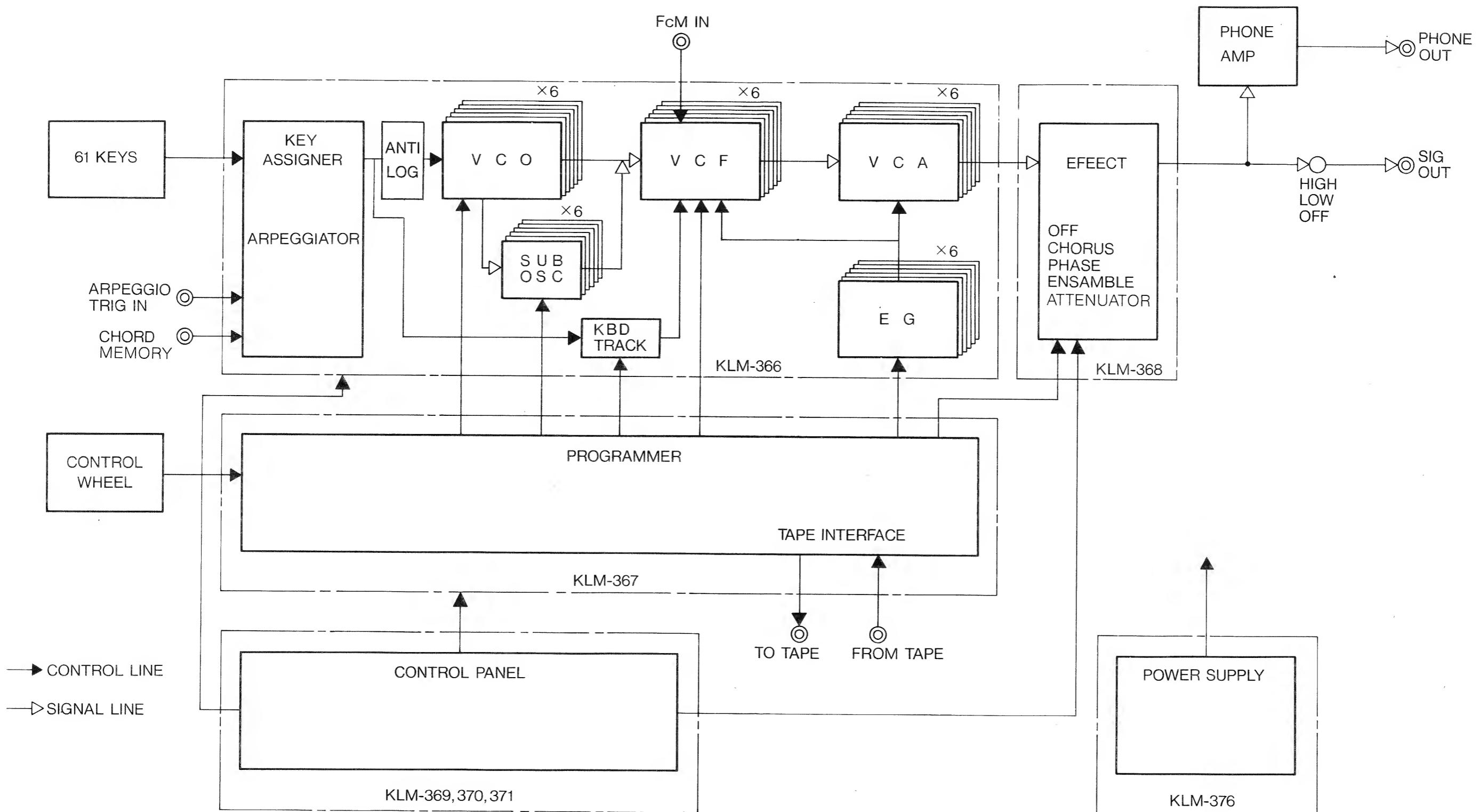
KEYBOARD .....	● 61 keys (C ~ C)
VOICES: 6 (Program and edit functions are possible for items marked *)	
VCO * .....	● Octave Selector (16', 8', 4') ● Waveform ( $\backslash$ , PW, PWM) ● Pulse Width/PWM Sensitivity Adjustment ● PWM Speed ● Off ● 1 oct Down ● 2 oct Down
SUBOSCILLATOR* .....	
VCF* .....	● Cutoff Frequency Adjustment ● Resonance Adjustment ● Envelope Generator Modulation ● Sensitivity Adjustment ● Keyboard Tracking Adjustment (0 ~ 150%)
ENVELOPE GENERATOR* .....	● Attack Time ● Decay Time ● Sustain Level ● Release Time
VCA* .....	● Mode Switch (EG, $\square$ ) ● Attenuator (-10dB ~ +10dB, 11 Steps)
MODULATION GENERATOR* .....	● Frequency ● Delay Time ● Level ● Modulation (VCO, VCF, VCA)
EFFECT*.....	● Mode (Off, Chorus, Phase, Ensemble) ● Speed/Sensitivity Adjustment
KEY ASSIGN MODE .....	● Poly ● Unison ● Chord Memory ● Hold ● Speed
ARPEGGIATOR .....	● (0.4Hz ~ 40Hz) ● Range (Full, 2 oct, 1 oct) ● Mode (Up, Down Up/Down) ● Latch (On/Off) ● Arpeggio (On/Off) ● $\pm 50$ Cents
TUNE .....	
BEND .....	● Sensitivity Adjustment (MAX $\pm 1300$ Cents)
OUTPUT .....	● Level Selector (Off, Low, High) ● Volume
PROGRAMMER .....	● Bank (A, B, C, D) ● Program (1 ~ 8) ● Write (Enable, Disable) ● Switch (Enable, Disable)
TAPE INTERFACE .....	● To Tape ● From Tape ● Verify ● Error/Cancel ● Tape Indicator x 2 (Found, Loading) ● Bend ● MG
CONTROL WHEEL x 2 .....	
INPUT JACKS .....	● From Tape (With High/Low Switch) ● Chord Memory ( $\square$ ) ● Arpeggio Trigger In ( $\square$ ) ● VCF fcM In (-5V ~ +5V)
OUTPUT JACKS .....	● To Tape (With High/Low Switch) ● Headphone ● Output
DIMENSIONS .....	● 980 (W) x 373 (D) x 132 (W) mm
WEIGHT .....	● 11.5 kg
ACCESSORIES INCLUDED .....	● Connection Cord ● Plug Adaptor (Phone-To-Mini) ● Memory Cassette
POWER CONSUMPTION .....	● Voltage (Local Voltage 50/60 Hz) Wattage (25 W)

## 2. STRUCTURAL DIAGRAM



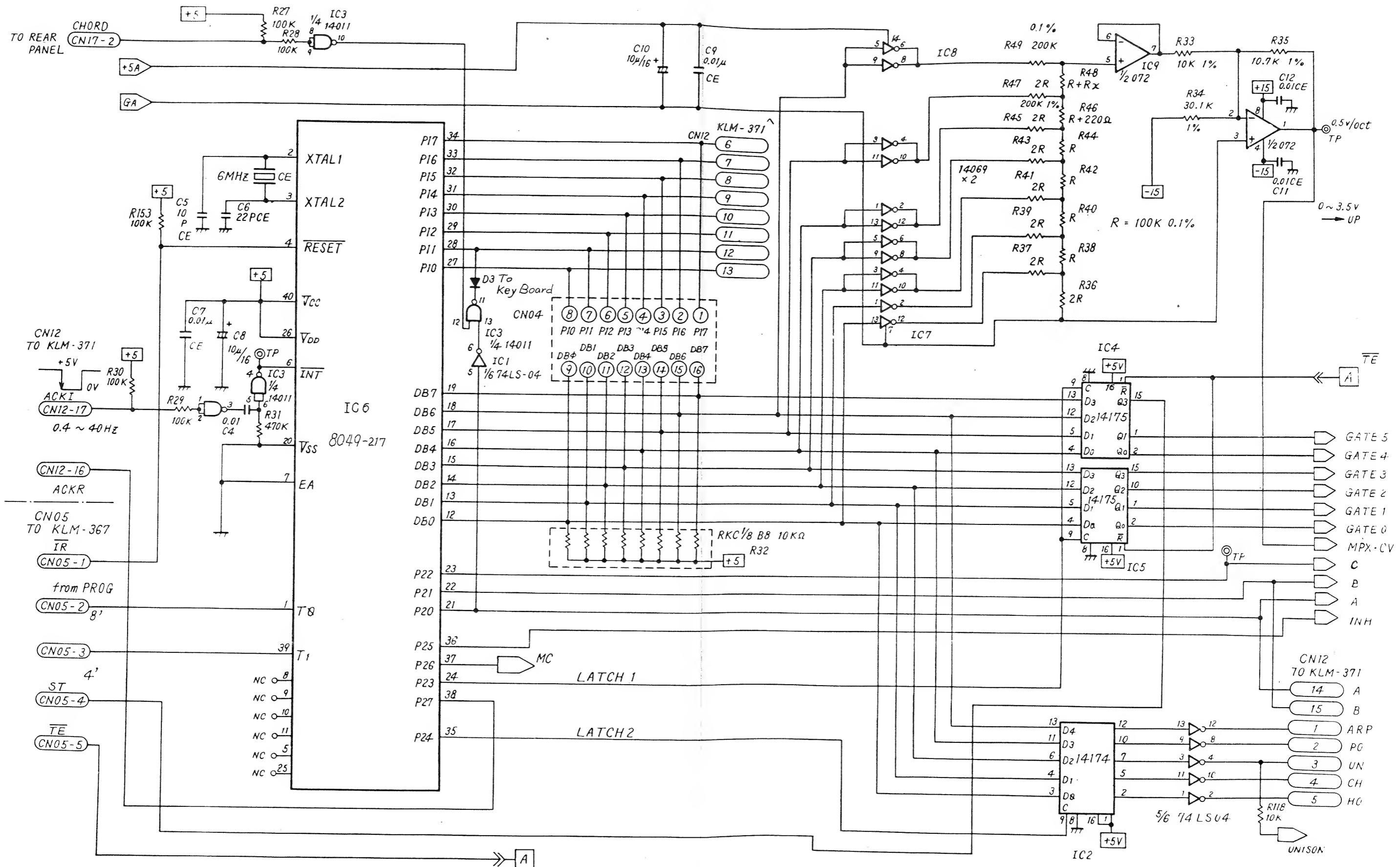
PART NO.	PART NAME	REMARKS
①	Wooden case	KOC-D10005
②	Front panel	KOC-C20111
③	Metal fitting of KLM-369	KOC-C40399
④	Metal fitting of KLM-371	KOC-C30179 2
⑤	Metal fitting of KLM-371	KOC-C30179 1
⑥	Metal fitting of KLM-371	KOC-C30179
⑦	Phone jack plate	KOC-C30178
⑧	Power plate	KOC-C40397
⑨	Radiation board	KOC-C40406
⑩	Metal fitting of KLM-376	KOC-C40405
⑪	Control panel	KOC-E20028
⑫	Control wheel	KOC-E40091
⑬	PCB rail	
⑭	Model number plate	KOC-C40144
⑮	Key board	ESK-701 (61 keys)

### 3. BLOCK DIAGRAM

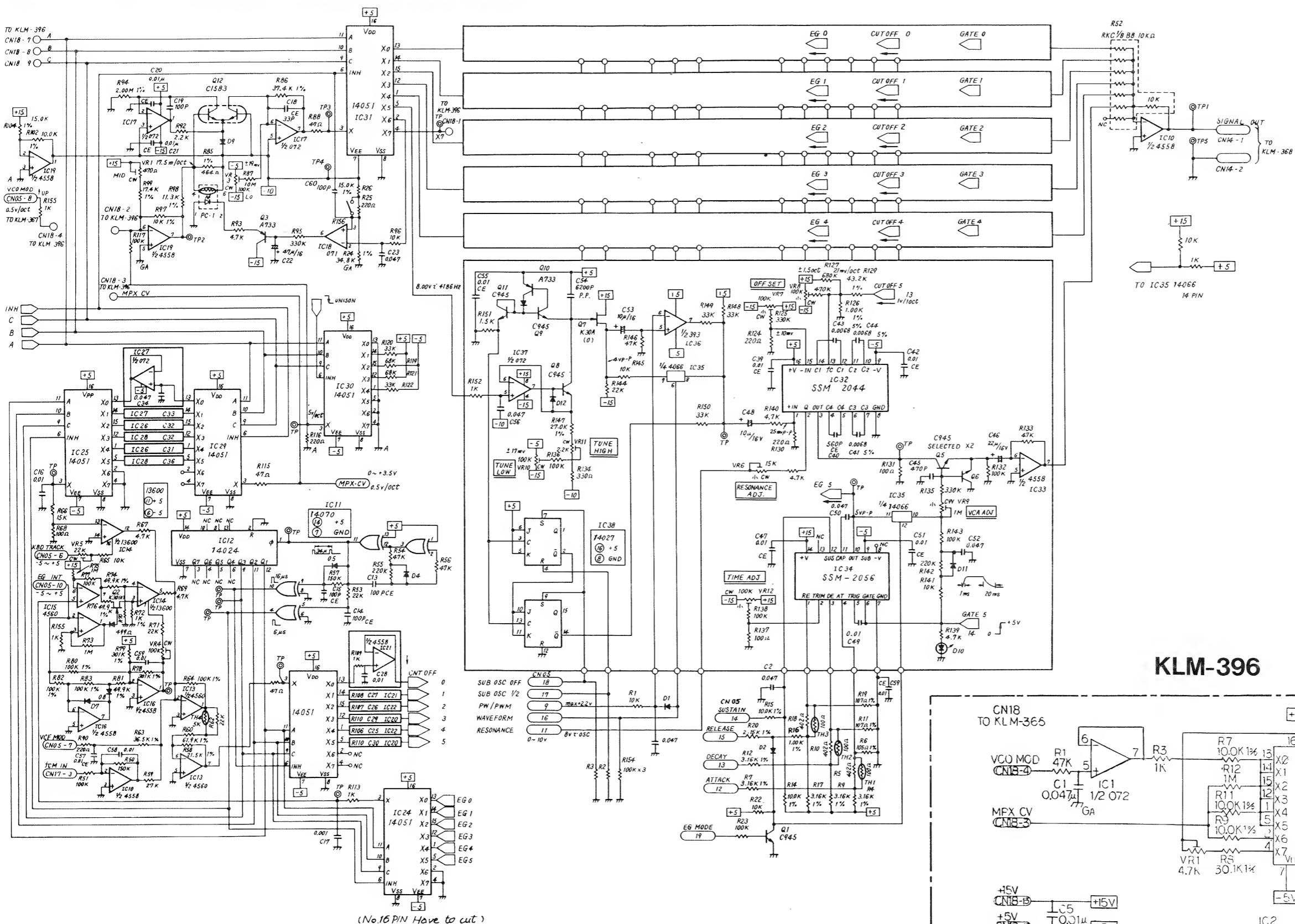


#### 4. CIRCUIT DIAGRAM

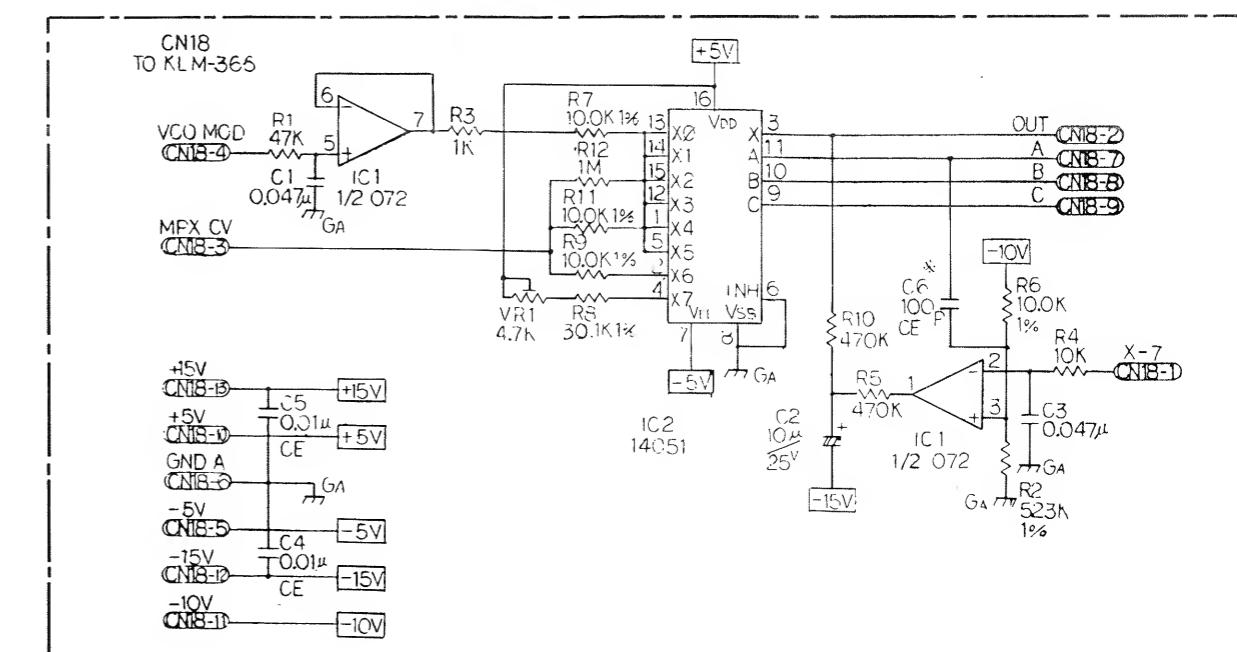
## KLM-366 KEY ASSIGNER (OLD PRODUCTION)



# KLM-366 SYNTHESIZER (OLD PRODUCTION)

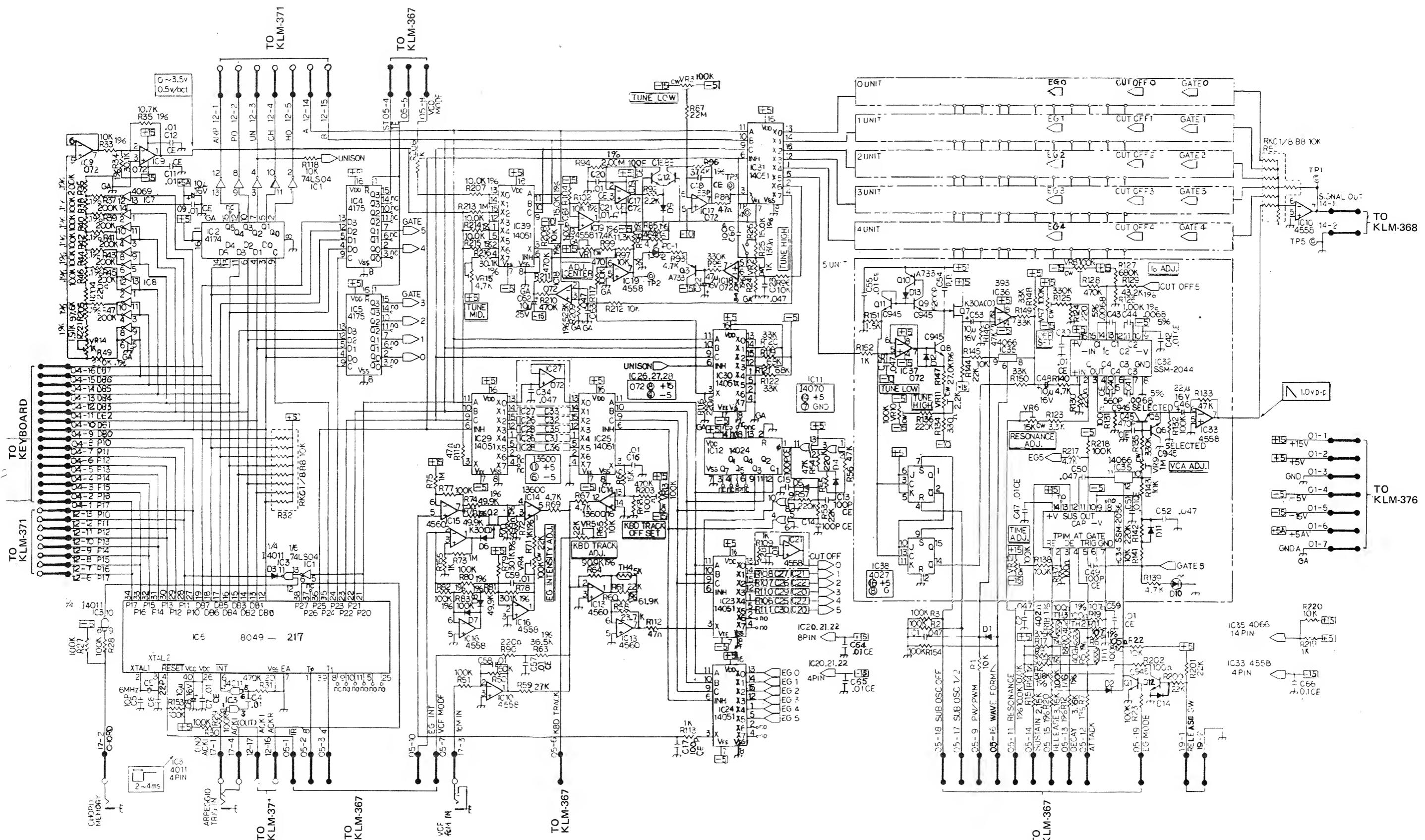


KLM-396

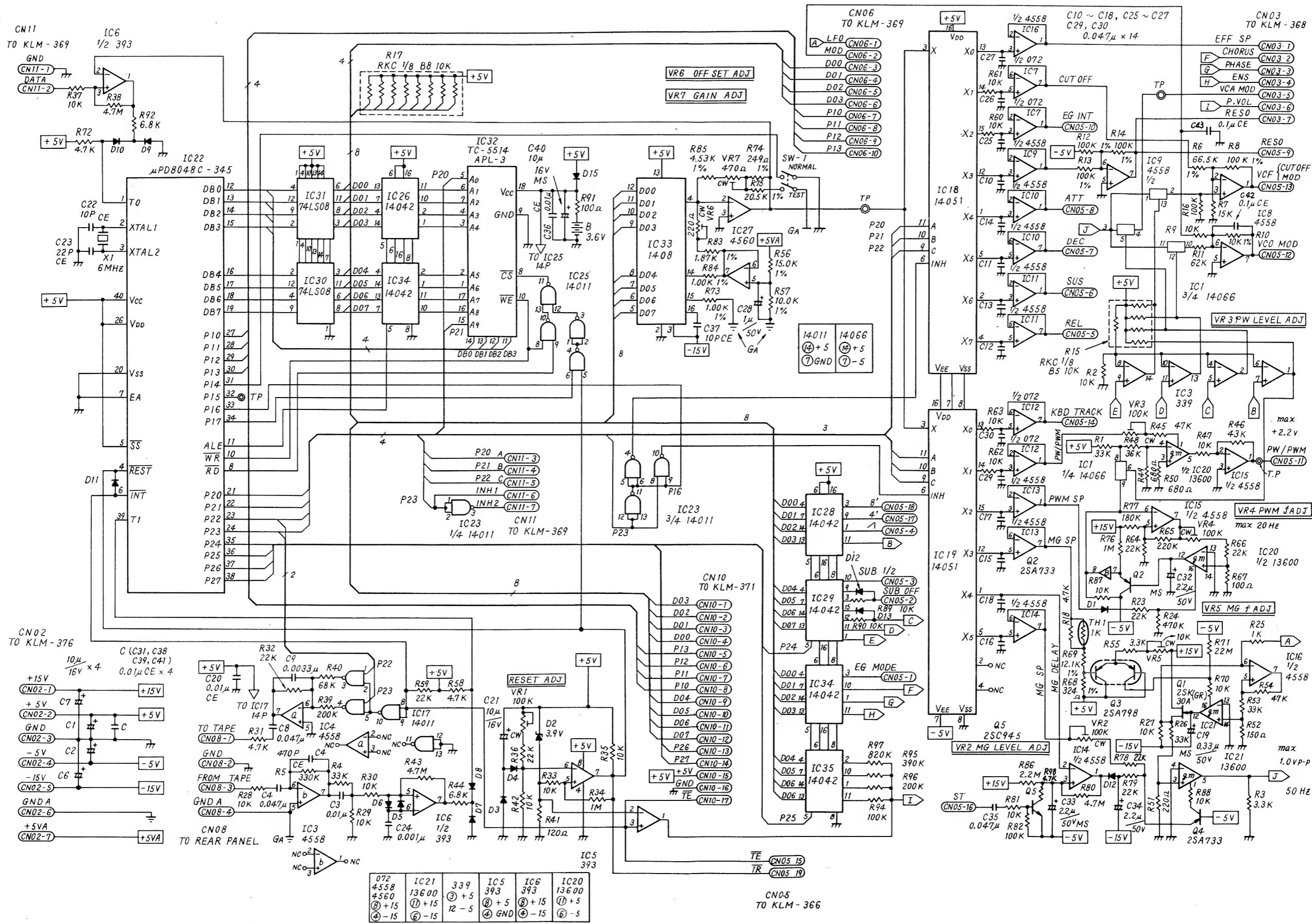


# KLM-366 (NEW PRODUCTION)

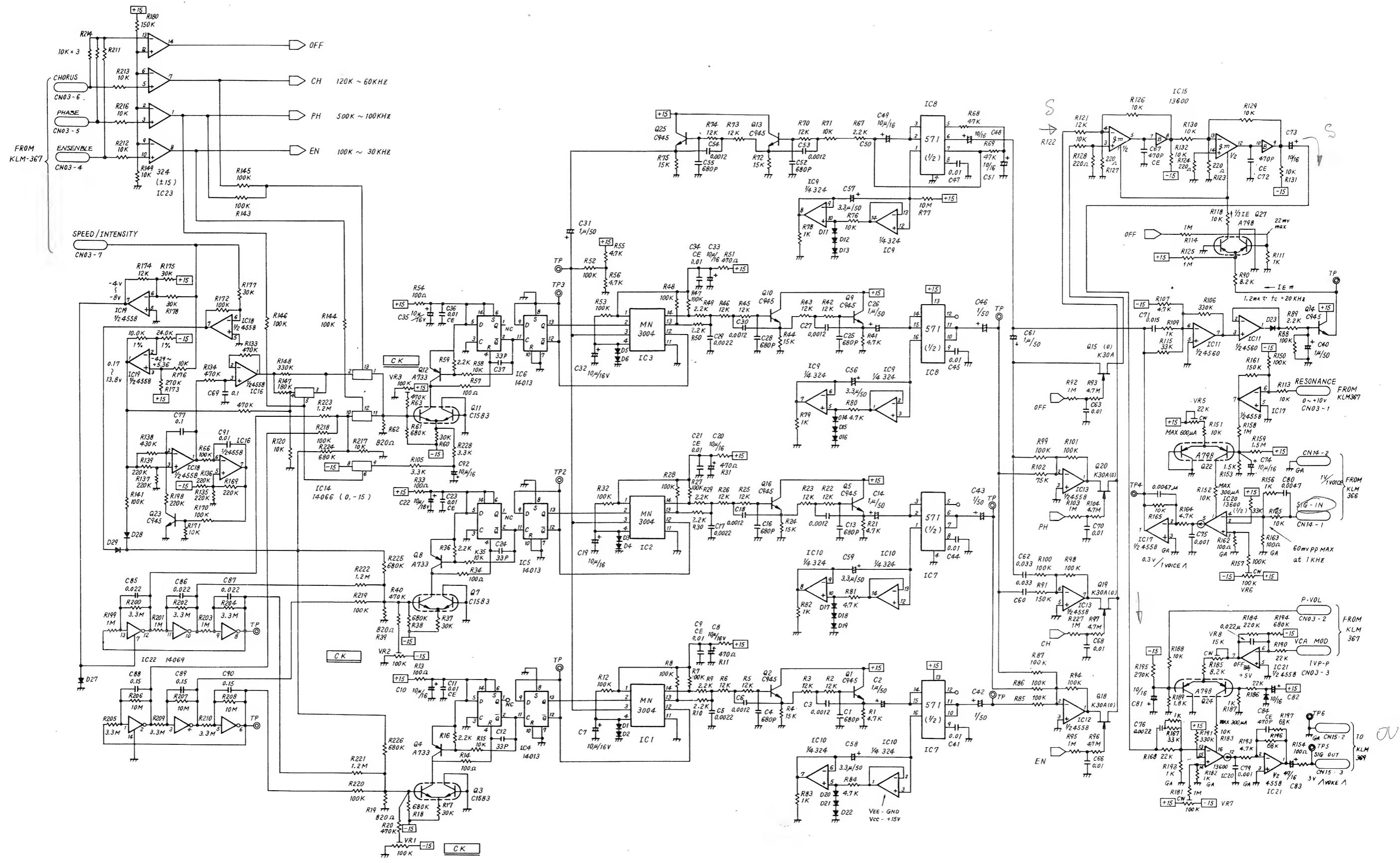
(KLM-366 includes KLM-396)



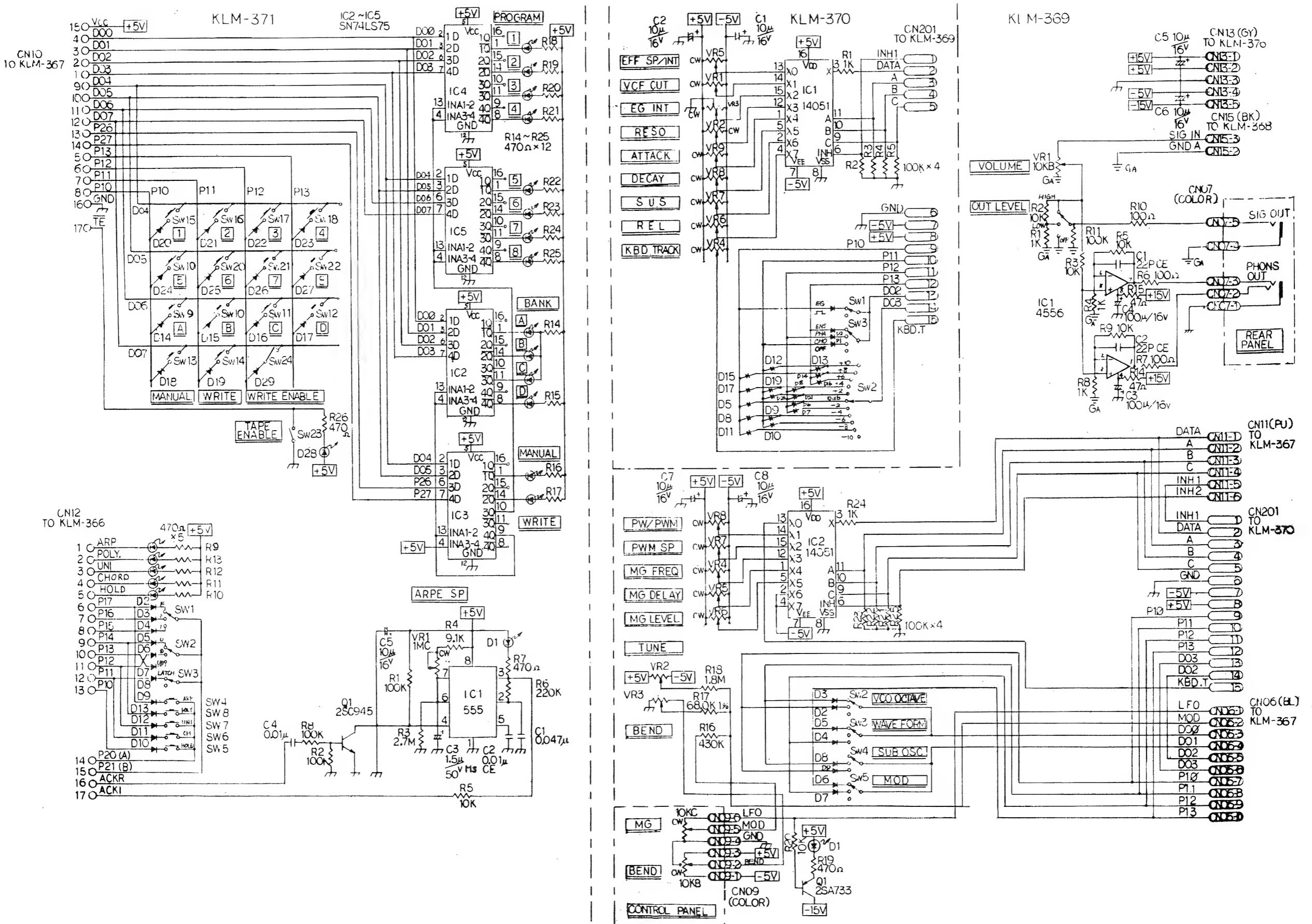
# KLM-367

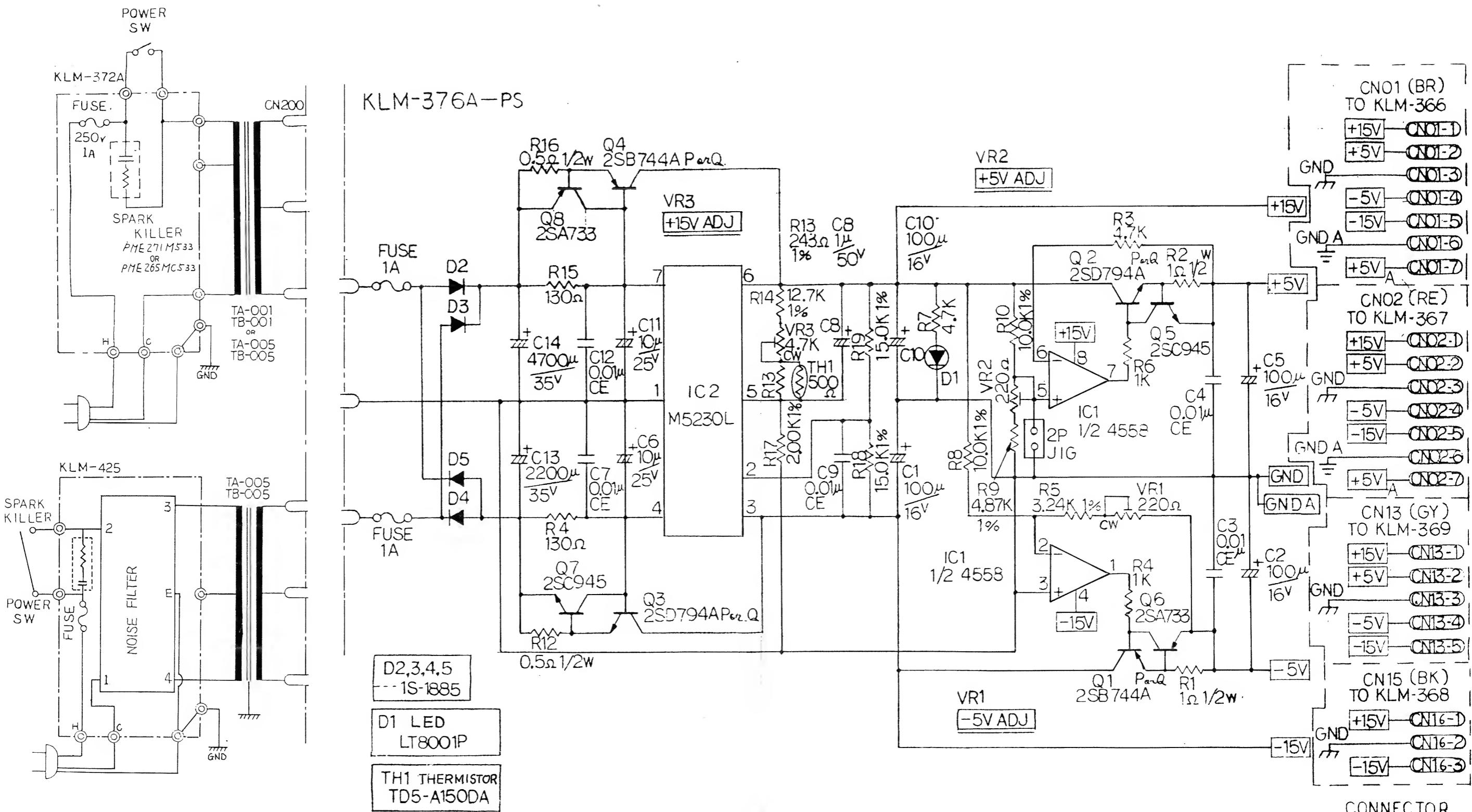


## KLM-368 EFFECT



**KLM-369, 370, 371**

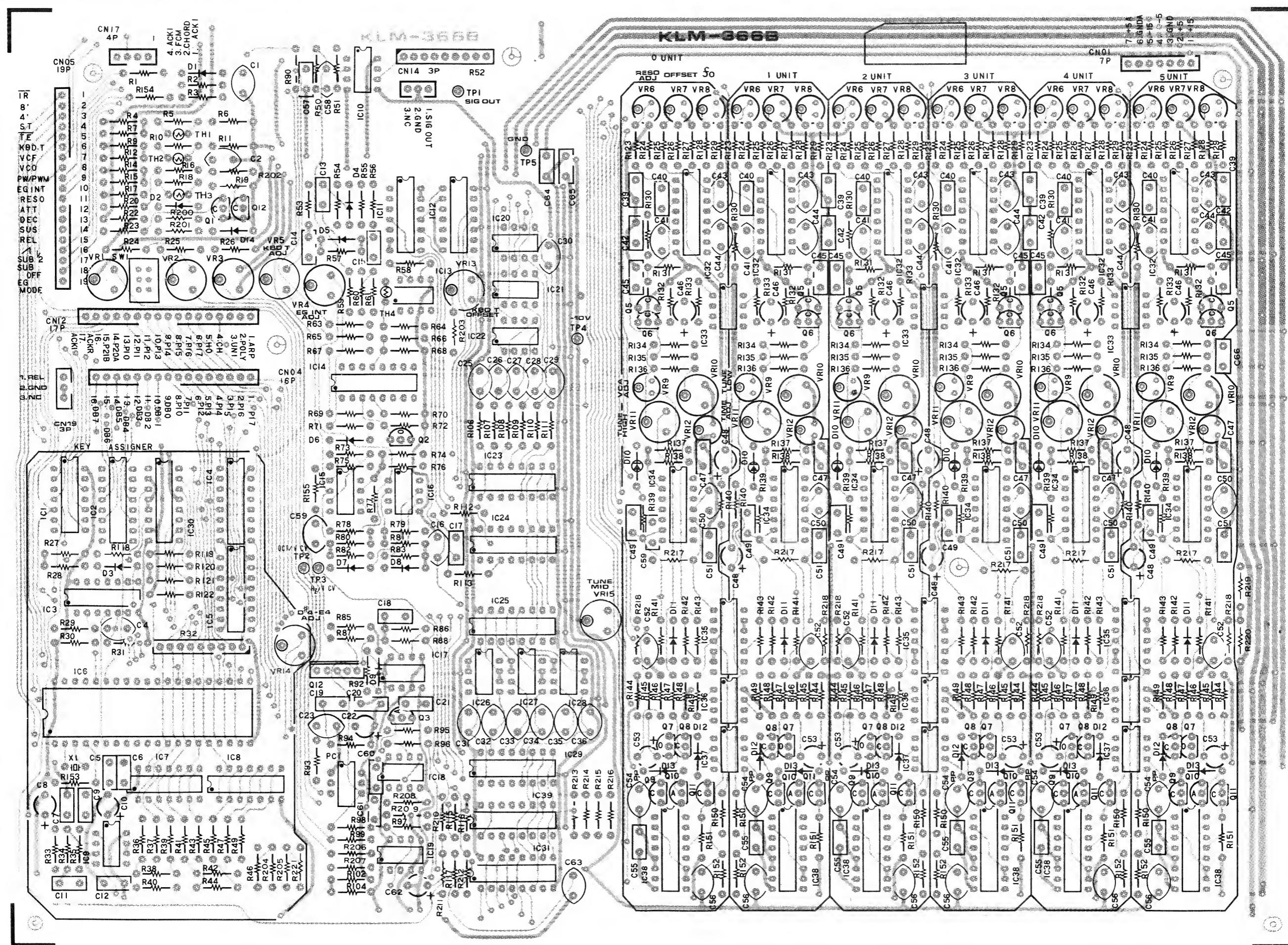




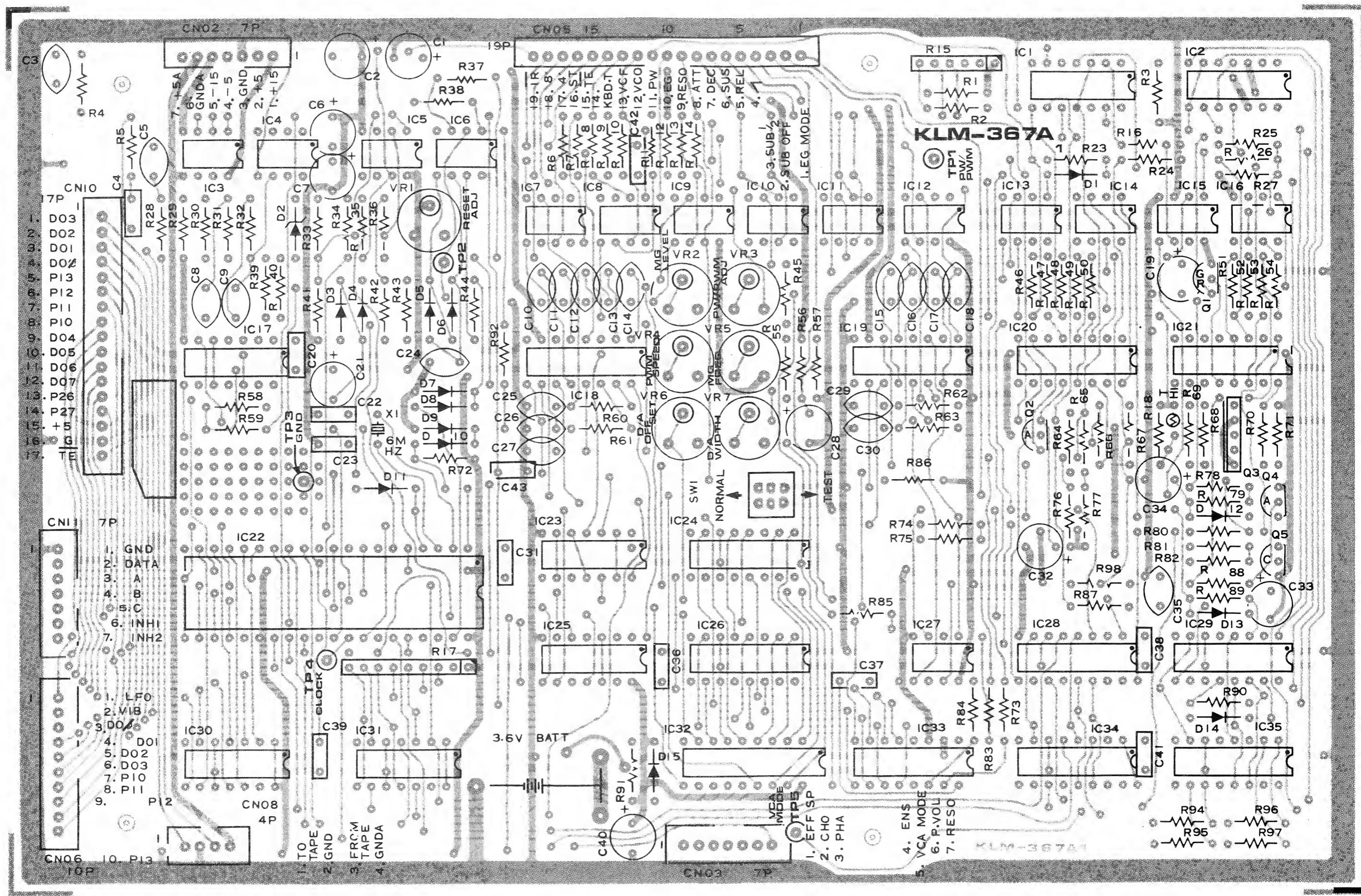
	TA		TB	
VOLTAGE	100V	120V	220V	240V
3	BROWN	ORANGE	YELLOW	GREEN
4	WHITE		WHITE	
NC	ORANGE	BROWN	GREEN	YELLOW

## 5. PC BOARD

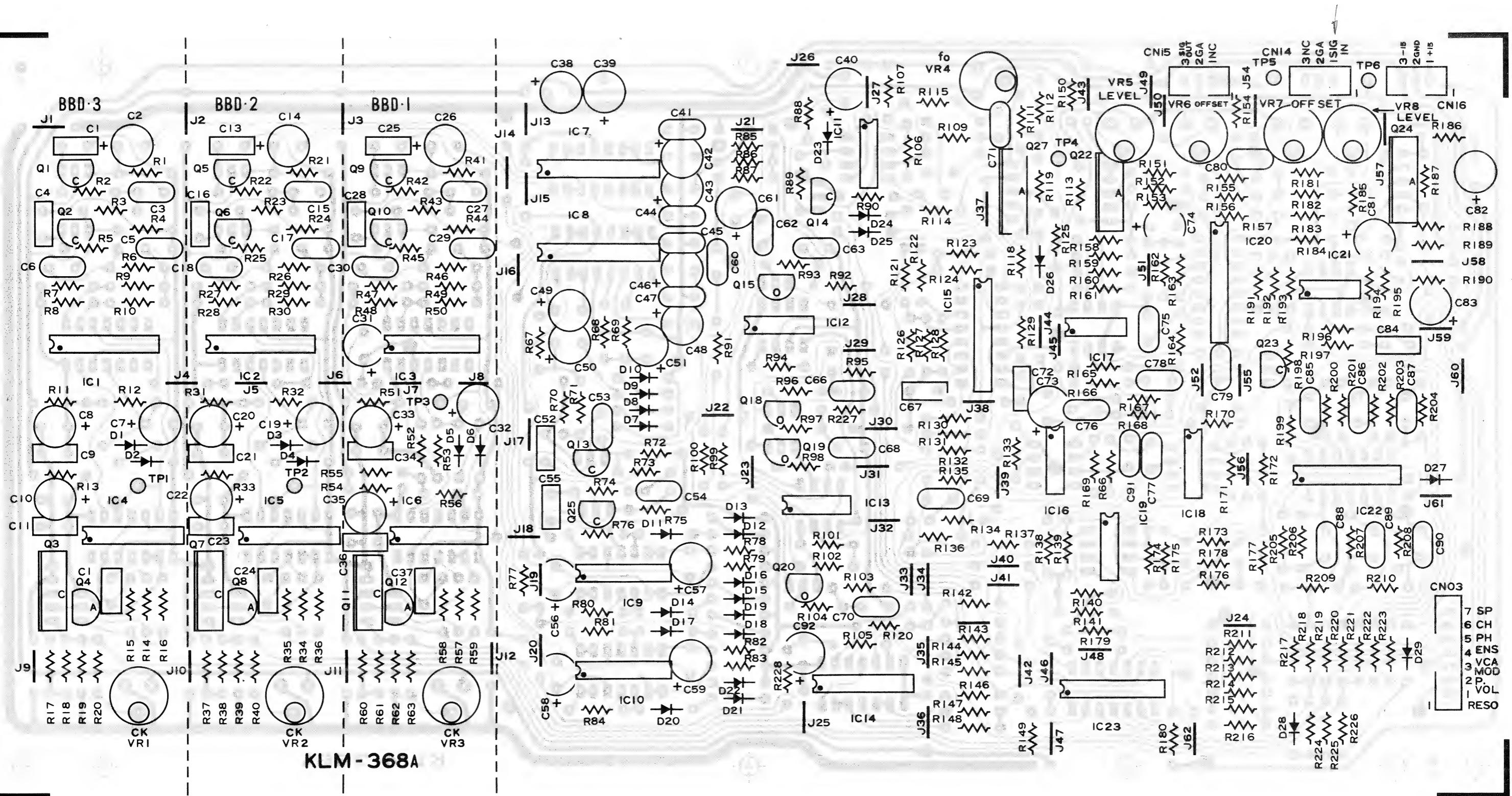
## KLM-366 (NEW PRODUCTION)



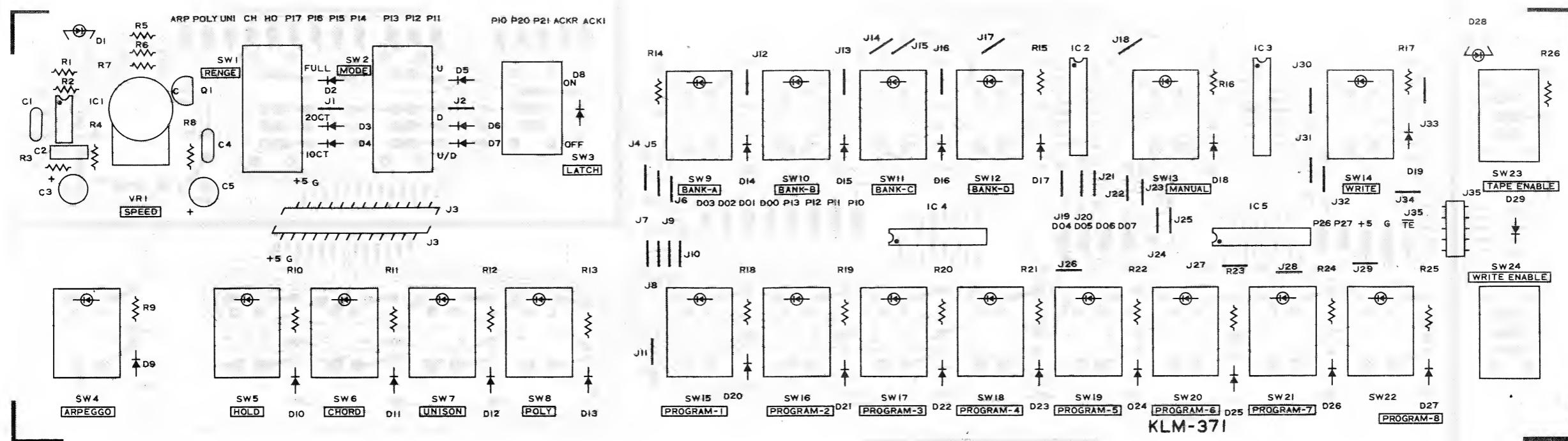
# KLM-367



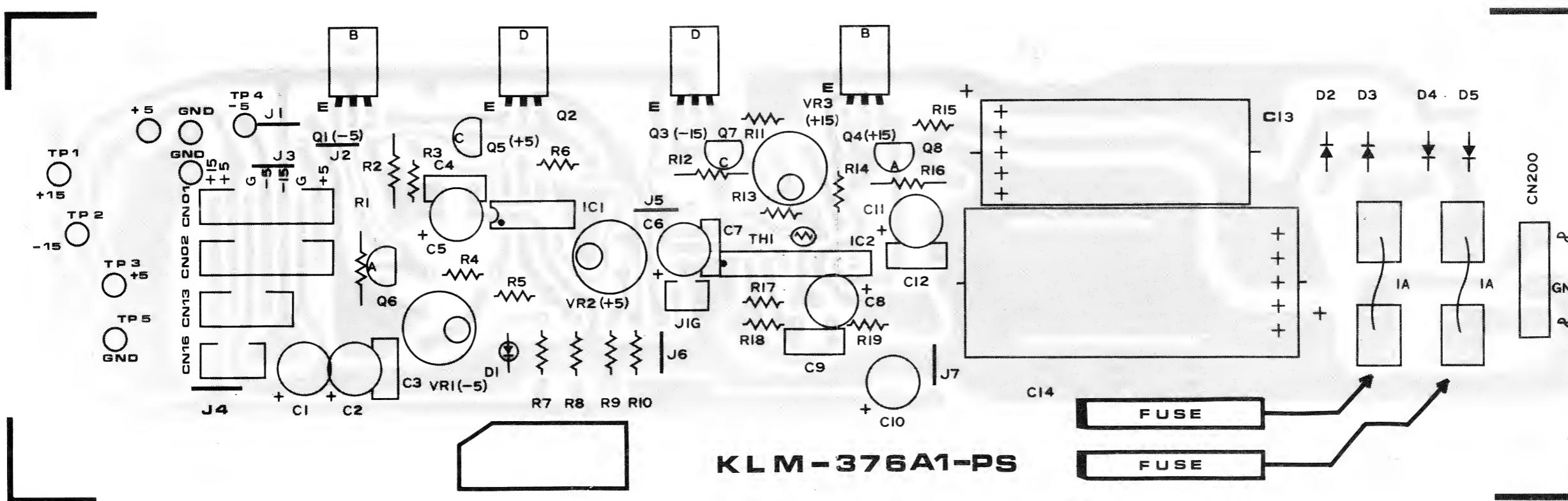
## KLM-368 EFFECT



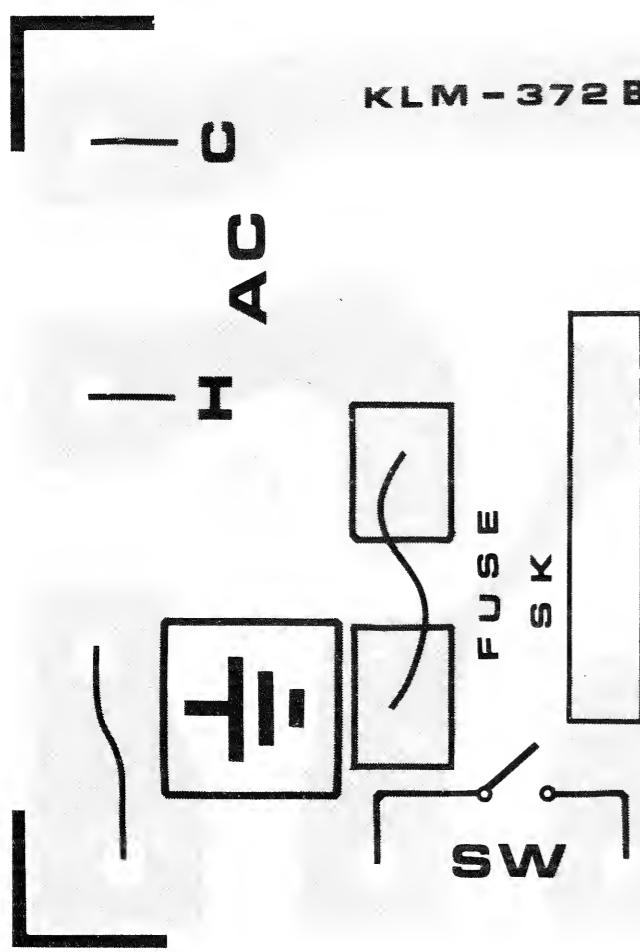
## KLM-371



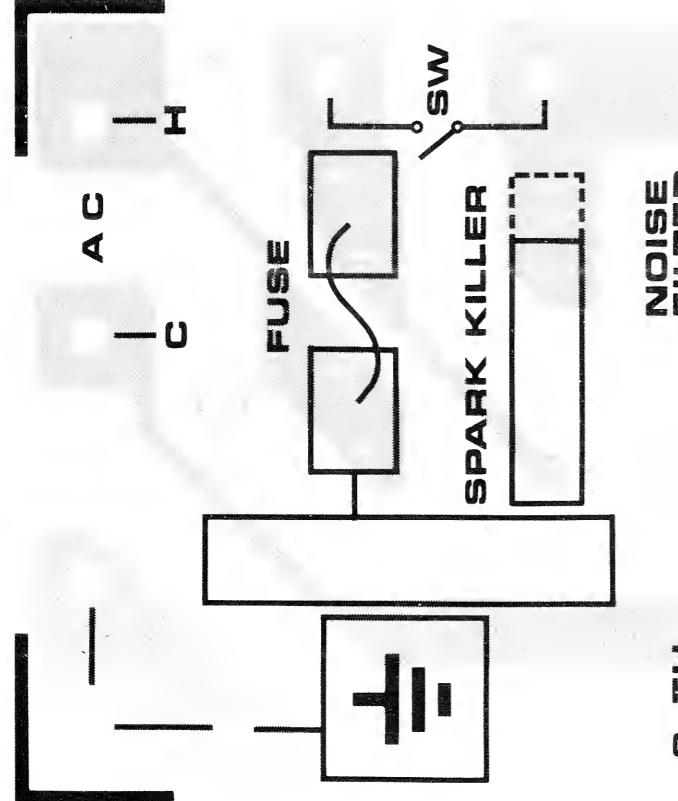
## KLM-376



KLM-372



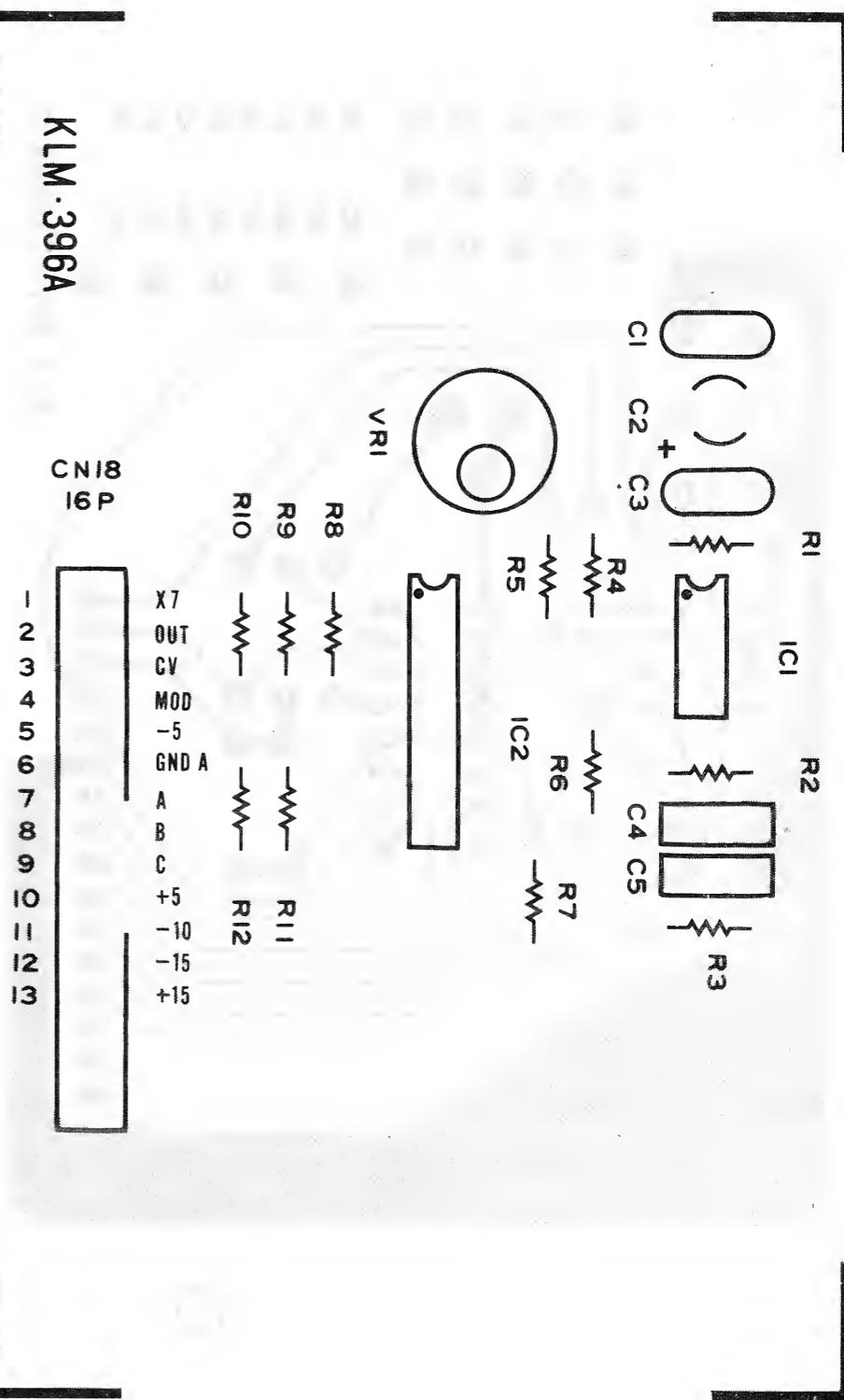
KLM-425



CAUTION FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,  
REFER REPLACEMENT TO QUALIFIED SERVICE PERSONNEL. RE-  
PLACE WITH THE SAME TYPE 250V FUSE.

ATTENTION AFIN D'ASSURER  
UNE PROTECTION PERMANENTE  
CONTRE LES RISQUES D'INCENDIE,  
LAISSER REMPLACER  
PAR UN TECHNICIEN  
QUALIFIE.  
PAR UN FUSIBLE DE MEME TYPE  
DE 250V.

KLM-396



KLM-425

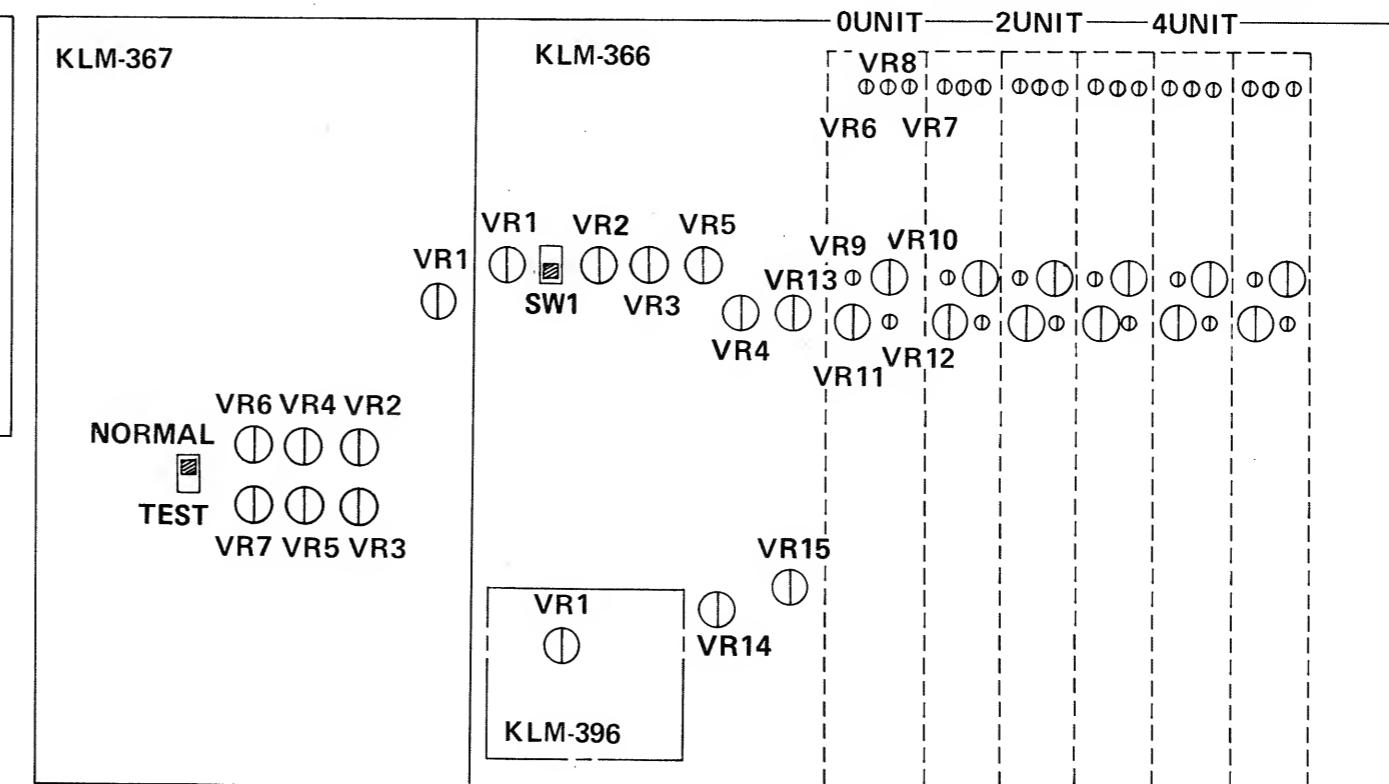
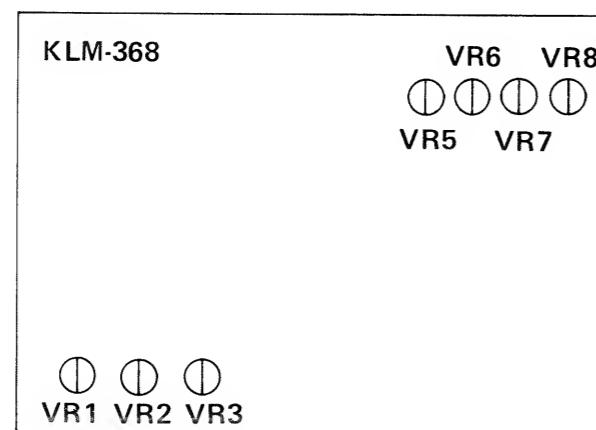
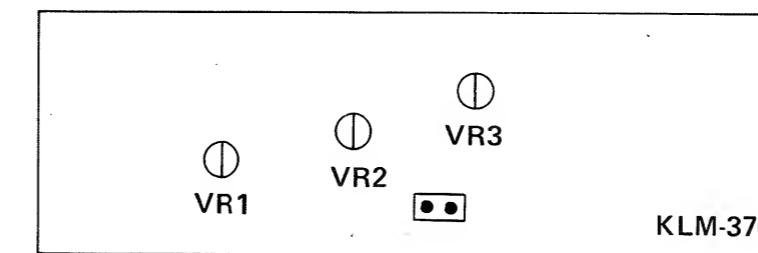
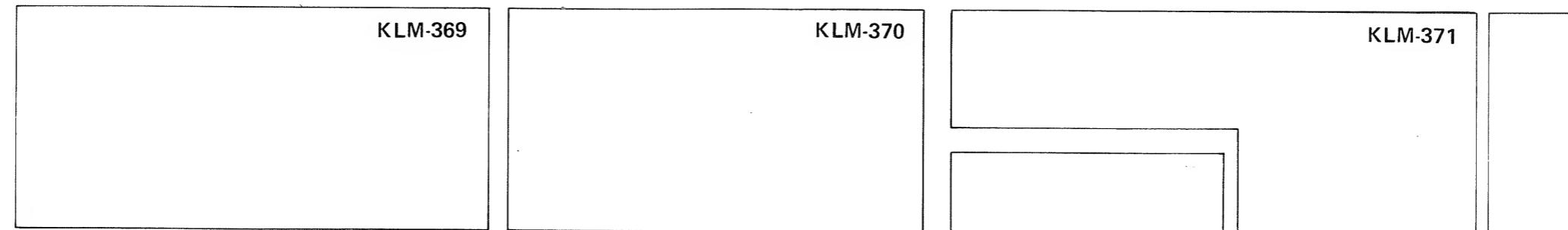
4-7 OV

NC

## 6. CONNECTOR FUNCTION

P.C.B.	CONNEC- TOR	FUNCTION	P.C.B.	TO CONNEC- TOR	COL- OR	P.C.B.	CONNEC- TOR	FUNCTION	P.C.B.	TO CONNEC- TOR	COL- OR	P.C.B.	CONNEC- TOR	FUNCTION	P.C.B.	TO CONNEC- TOR	COL- OR	P.C.B.	CONNEC- TOR	FUNCTION	P.C.B.	TO CONNEC- TOR	COL- OR	
KLM-366	01- 1	+15	KLM-376	01- 1	BR	KLM-366	10	EG INT	KLM-369	11- 4	C	KLM-376	13- 1	D07	KLM-371	J35 1		KLM-371	J35 1					
	2	+5	"	2	"		11	PW/PWM	"	5	INH1		13- 1	2	KLM-371	J35 2		P12	-3	"	2			
	3	GND	"	3	"		12	VCO MOD/CUTOFF	"	6	INH2		13- 1	3	"	"	3		+5	"	3			
	4	-5	"	4	"		13	VCF MOD	"	2			13- 1	4	GND	"	4		GND	"	"	4		
	5	-15	"	5	"		14	KBD TRACK	KLM-366	6	GR		13- 1	5	+5	"	5		TE	"	"	5		
	6	GNDA	"	6	"		15	TE	"	5	"		13- 1	6	-5	"	5		GND	"	"	5		
	7	+5A	"	7	"		16	ST	"	4	"		13- 1	7		"	6			"	"	5		
	8						17	4'	"	3	"		13- 1	8		"	7			"	"	5		
	9						18	8'	"	2	"		13- 1	9		"	8			"	"	5		
	10						19	IR	KLM-369	1	"		13- 1	10		"	9			"	"	5		
KLM-366	04- 1	P17	KEY- BOARD	YE		KLM-367	06- 1	MOD	KLM-369	06- 1	BL	KLM-369	201- 1	5		KLM-371	J35 2		P12	-3	"	2		
	2	P16					06	LFO	"	2	"		201- 1	6		"	3		+5	"	3			
	3	P15					06	D00	"	3	"		201- 1	7		"	4		GND	"	"	4		
	4	P14					06	D01	"	4	"		201- 1	8		"	5		-5	"	"	4		
	5	P13					06	D02	"	5	"		201- 1	9		"	6		GND	"	"	4		
	6	P12					06	D03	"	6	"		201- 1	10		"	7		-5	"	"	4		
	7	P11					06	P10	"	7	"		201- 1	11		"	8		P10	"	"	4		
	8	P10					06	P11	"	8	"		201- 1	12		"	9		P11	"	"	4		
	9	DB0					06	P12	"	9	"		201- 1	13		"	10		P12	"	"	4		
	10	DB1					06	P13	"	10	"		201- 1	14		"	11		P13	"	"	4		
KLM-366	11	DB2				KLM-367	08- 1	TO TAPE	REAR PANEL	BR		KLM-369	201- 1	15		KLM-371	J35 3		P14	-5	"	5		
	12	DB3					08	FROM TAPE	RE OR	RE			201- 1	16			KLM-371	J35 4		GND	"	"	5	
	13	DB4					08	GND	OR	OR			201- 1	17			KLM-371	J35 5		-15	"	"	5	
	14	DB5					08	DO3	KLM-371	BR			201- 1	18			KLM-371	J35 6		GND	"	"	5	
	15	DB6					08	DO2	-2	RE			201- 1	19			KLM-371	J35 7		+5	"	"	5	
	16	DB7					08	DO1	KLM-371	RE			201- 1	20			KLM-371	J35 8		+5	"	"	5	
	17	IR	KLM-367	05- 19	GR	KLM-367	10	DO0	KLM-371	OR		KLM-369	201- 1	21		KLM-371	J35 9		DO3	"	"	5		
	18	8'	"	18	"		10	P13	KLM-371	YE			201- 1	22			KLM-371	J35 10		P12	"	"	5	
	19	4'	"	17	"		10	P12	KLM-371	BL			201- 1	23			KLM-371	J35 11		P13	"	"	5	
	20	ST	"	16	"		10	P11	KLM-371	BL			201- 1	24			KLM-371	J35 12		P12	"	"	5	
	21	TE	"	15	"		10	P10	KLM-371	BL			201- 1	25			KLM-371	J35 13		P13	"	"	5	
	22	KBD TRACK	"	14	"		10	DO4	KLM-371	BL			201- 1	26			KLM-371	J35 14		DO3	"	"	5	
	23	VCF MOD/CUTOFF	"	13	"		10	DO5	KLM-371	BL			201- 1	27			KLM-371	J35 15		P10	"	"	5	
	24	VCO MOD	"	12	"		10	DO6	KLM-371	BL			201- 1	28			KLM-371	J35 16		P11	"	"	5	
	25	PW/PWM	"	11	"		10	DO7	KLM-371	BL			201- 1	29			KLM-371	J35 17		P12	"	"	5	
	26	EG INT	"	10	"		10	DO8	KLM-371	BL			201- 1	30			KLM-371	J35 18		P13	"	"	5	
KLM-366	12- 1	RESO	"	9	"	KLM-367	12	DO9	KLM-371	BL		KLM-369	201- 1	31		KLM-371	J35 19		DO4	"	"	5		
	13	ATTACK	"	8	"		12	DO10	KLM-371	BL			201- 1	32			KLM-371	J35 20		P10	"	"	5	
	14	DECAY	"	7	"		12	DO11	KLM-371	BL			201- 1	33			KLM-371	J35 21		P11	"	"	5	
	15	SUSTAIN	"	6	"		12	DO12	KLM-371	BL			201- 1	34			KLM-371	J35 22		P12	"	"	5	
	16	RELEASE	"	5	"		12	DO13	KLM-371	BL			201- 1	35			KLM-371	J35 23		P13	"	"	5	
	17	SUB 1/2	"	4	"		12	DO14	KLM-371	BL			201- 1	36			KLM-371	J35 24		DO3	"	"	5	
	18	SUB OFF	"	3	"		12	DO15	KLM-371	BL			201- 1	37			KLM-371	J35 25		P02	"</			

## 7. SEMI-FIXED RESISTORS DIAGRAM



## 8. ADJUSTMENT PROCEDURE

**Caution:** This unit has been precisely adjusted at the factory before shipment. Therefore, absolutely do not turn any of the variable resistors other than those required for servicing. Testing and adjustment should be performed only after allowing the unit to warm up for ten minutes. Variable resistor locations are marked on separate charts.

\* The following are required for the test procedures:

Digital voltmeter (DVM) 4-1/2 digit  
Oscilloscope  
Tuner Korg WT-12, etc.  
Audio amp and speaker, or headphones.

### 1. Please check the following before proceeding.

- 1) Check all connections to make sure they are correct and secure.
- 2) Check memory back-up battery voltage. KLM-367 circuit board battery voltage should be 3.60V~4.10V.

### 3. KLM-367 check and adjustment.

#### (1) Reset circuit.

With controls at the normal setting (fig. 1), connect a dummy 56kohm 2P (2-pin) connector to the KLM-367 2P plug (male). If connector not available attach 56K resistor with small test clips (E-Z-Hook or Similar)

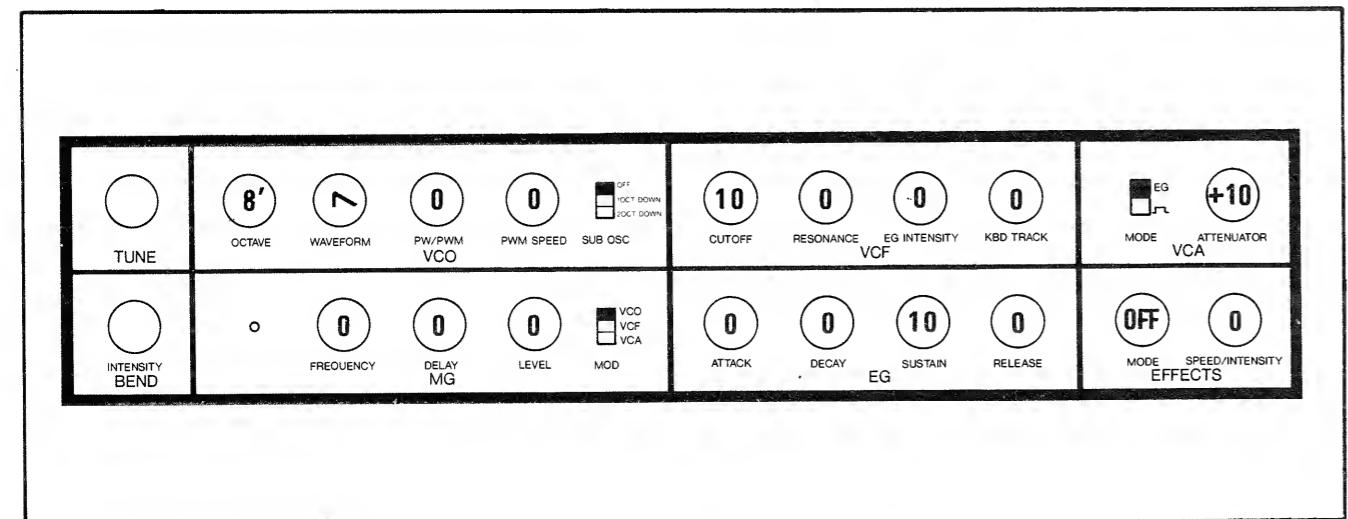


Fig. 1 Normal setting.

1) Turning VR1 from the counterclockwise position towards the clockwise direction, adjust so that the BANK A~D, MANUAL, TAPE ENABLE, and PROGRAM 1~8 LEDs all light up (instead of only BANK A and PROGRAM 1).

2) Confirm that only the BANK A and PROGRAM 1 LEDs light up when you remove the 56kohm 2P connector.

#### (2) D/A adjustment.

1) Set MANUAL to ON, CUTOFF to 10, and EFFECT INTENSITY to 0.

2) Set circuit board SW1 to TEST position.

3) Confirm that PROGRAM LEDs 1 & 8 alone light up when the TAPE SW is switched back and forth from DISABLE to ENABLE and back to DISABLE.

4) If LEDs other than 1 and 8 light up, adjust VR6 (offset) and VR7 (width) so that only 1 & 8 light up.

### 2. Power supply check and adjustment (KLM-376).

Use a DVM to check the following test point (TP) voltages. (Obtain ground in front of LED.):

- 1) +15V for TP-J7. Adjust VR3 to obtain +15.000V ±50mV.
- 2) -15V for the right side of TP-R18. Confirm -15.000mV ±300mV.
- 3) +5V for TP-J2. Adjust VR2 to obtain +5,000 ±10mV.
- 4) -5V for TP-J1. Adjust VR1 to obtain -5.000V ±10mV.

### (3) MG adjustment.

Leaving other controls at the normal setting, set MG FREQUENCY to 10, LEVEL to 10, and MOD SW to VCA.

- 1) Observe connector CN03-5 on oscilloscope.

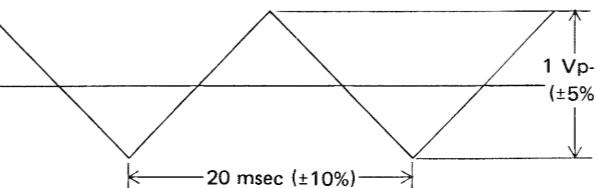


Fig. 2.

2) Adjust VR2 to obtain 1Vp-p(±5%) level; adjust VR5 to obtain frequency of 50Hz (20msec ±10%). If these values cannot be obtained after replacing IC LM13600, adjust R78 and R52 respectively.

3) Leave the other controls at the same settings as above, but change MG FREQUENCY to 0. Confirm a cycle of 10 ~ 40 sec.

Leave other controls at same settings but change MG FREQUENCY to 4, and DELAY to 10. Confirm that the waveform appears 8 ~ 12 seconds after a key is depressed.

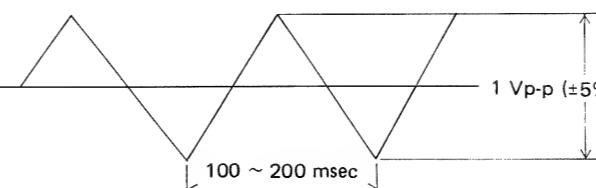


Fig. 3. (LEVEL 1Vp-p; frequency about 10Hz.)

### (4) PW/PWM check and adjustment.

Set waveform to PW and PWM SPEED to 0, and PW/PWM to 10.

- 1) Connect oscilloscope and DVM to CN05-11.

2) Adjust VR3 to obtain +2.2V (±1%).

3) Change WAVEFORM to PWM and PWM SPEED to 10. Adjust VR4 to obtain a frequency of 20Hz.

Use resistor inseries with VR4 if adjustment cannot be obtained in the same way as for the MG.

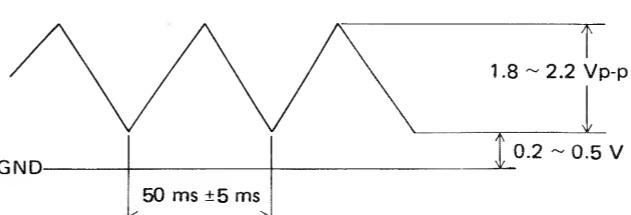


Fig. 4.

4) At this time confirm that there is a DC component of +0.2 ~ +0.5V.

### 4. KLM-366 check and adjustment. Obtain ground at TP5.

#### (1) VCF offset adjustment.

Leaving other controls at standard settings, set WAVEFORM to PW and PW/PWM to 10.

- 1) Use oscilloscope or DVM to check Q5 (2SC945) collector.

2) Adjust VR7 to obtain 0mV ±2mV.

- 3) Repeat steps 1 & 2 for units No. 0 ~ No. 5.

#### (2) VCA level adjustment.

Set OCTAVE to 4; leave others at normal setting.

- 1) Connect oscilloscope to SIG OUT (TP-1).

2) Play C3 and adjust VR9 to obtain a sawtooth waveform amplitude of 1Vp-p (±5%).

- 3) Repeat for units No. 0 ~ No. 5.

#### (3) VCF RESONANCE adjustment.

Set OCTAVE to 8, WAVEFORM to PW, and PW/PWM to 10. Check CN05-7 with DVM and adjust to obtain 0.000V ±20mV.

Check CN05-11 with DVM and adjust RESONANCE VR to obtain 8.000V ±20mV.

Leave other controls at normal setting.

- 1) Check SIG OUT (TP1) with oscilloscope and frequency counter.

2) Play any single key and adjust VR6 so that the VCF waveform amplitude is 300mVp-p ±20mV.

- 3) Repeat for units No. 0 ~ No. 5.

#### (4) VCF fo adjustment.

Set RESONANCE to 10; leave others at same setting as above (3).

- 1) Check oscillation frequency with frequency counter and tuner (WT-12, properly calibrated, chromatic dial set to C).

2) Adjust VR8 to obtain  $f_0=523\text{Hz}$  (±10 cent).

- 3) Repeat for units No. 0 ~ No. 5.

4) Turn CUTOFF from 0 to 10 and check to see that each unit's oscillation frequency is 10 ~ 25Hz at 0 and 19 ~ 24kHz at 10; amplitude should be at least 300mVp-p throughout.

#### (5) EG INTENSITY adjustment.

Set WAVEFORM to PW, PW/PWM to 10, CUTOFF to 0, RESONANCE to 10, EG INT to +5. Leave others at normal setting.

- 1) Check SIG OUT (TP1) with oscilloscope and frequency counter.

2) Play any single key and adjust VR4 to obtain an oscillation frequency of 5kHz (±500Hz) for units No. 0 ~ No. 5.

- 3) Set EG INT to +3 and check to see that there is no wide variation in pitch between units No. 0 ~ No. 5.

4) Set octave to 4', RESONANCE to 0, EG INT to +5, SUSTAIN to 0, DECAY to 5. Leave others at same setting as 3) above.

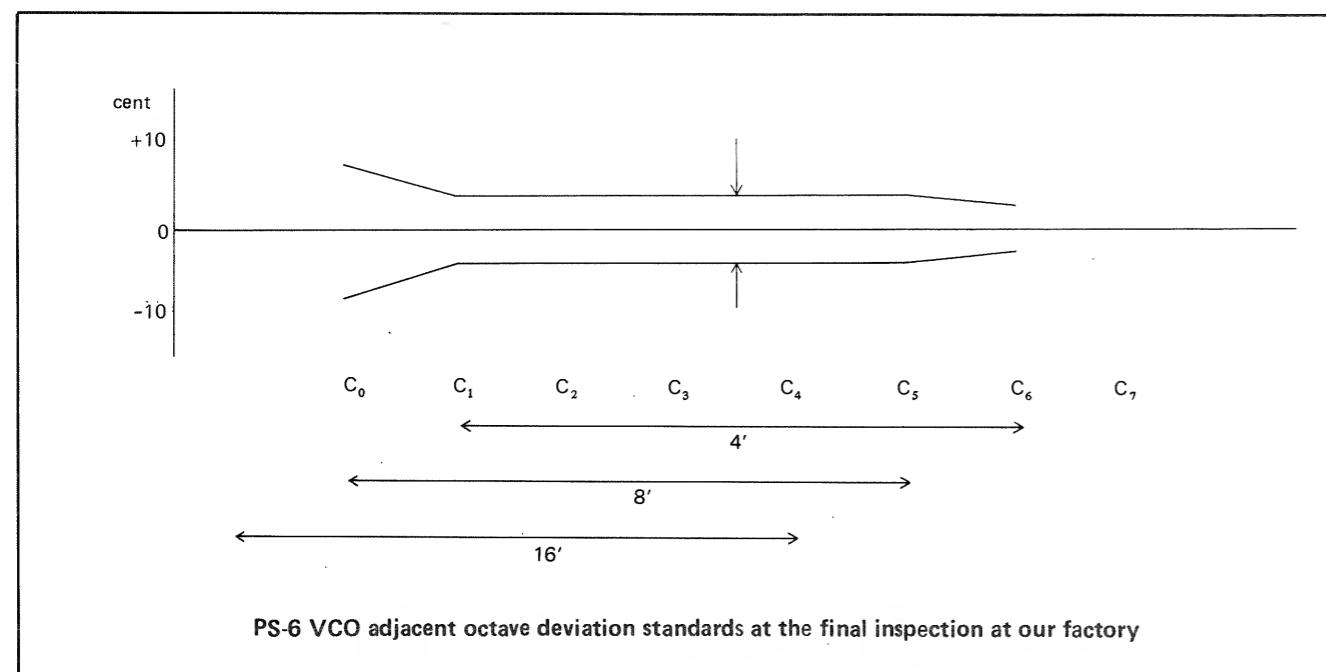
Check to see that there is no click noise for units No. 0 ~ No. 5.

#### (6) KBD TRACK adjustment.

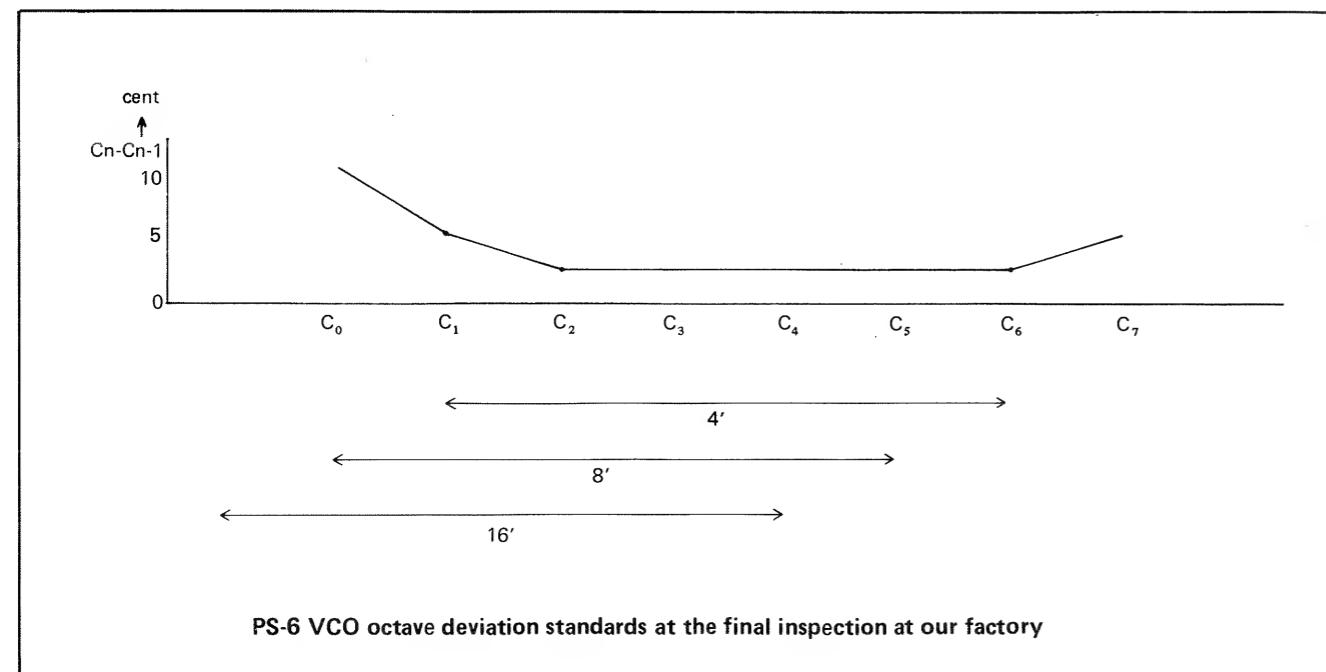
Set OCTAVE to 16', connect DVM to CN05-6, and adjust KBD TRACK VR to obtain +1.6V.

Leave others at same setting as (4).  
 1) C1 ~ C2 should sound approximately like a scale.  
 2) Adjust VR5 if necessary.  
 (7) PITCH check and adjustment.  
 Set OCTAVE to 4'; leave others at normal.  
 1) Change circuit board slide switch to opposite position.  
 (away from VR1)  
 2) Play C6 and adjust VR11 to obtain 0 cent.  
 3) Repeat step 2) for units No. 0 ~ No. 5.

4) Play C2 and adjust KLM-396 VR1 to obtain 0 cent.  
 Do this for one unit.  
 5) Set OCTAVE to 16', play C2 and adjust VR10 to obtain 0 cent.  
 6) Repeat step 5) for each unit. (VR3 is used to adjust for deviation of all units.)  
 7) Play C1, C2, C3, C4, C5, and C6, and confirm that each unit's deviation is within specifications.  
 (Refer to Poly-6 deviation standards.)



8) Check to confirm that deviation between adjacent octaves is within specifications. (for unit 0 only.)  
 (Refer to VCO adjacent octave deviation standards.)



9) Confirm that difference between 4' D#4 and E4 is within 2 cents.  
 (Switch between POLY and UNISON and check unit 0 only.)  
 10) Switch SW1 to the front while playing C6 (stretch tuning) and confirm +8 ~ +12 cent.  
 11) Confirm difference of no more than 2 cents between 4' G5 and G#5. Unit 0 only is OK.  
 12) Confirm that KLM-366'S VR1 is approximately in the center position and not turned in the clockwise or counterclockwise directions.  
 (8) EG TIME check and adjustment.  
 1) Attack time adjustment.  
 Check CN05-12 with DVM and adjust ATTACK VR to obtain +0.9V ±20mV. Set SUSTAIN to 0; leave others at normal setting.  
 2) Test top side of R143 10K with oscilloscope. (Set sweep mode to normal.)  
 3) Set ARPEGGIO to ON, ARPEGGIO SPEED to 2.5, LATCH to ON, and UNISON to ON.  
 4. Play any single key and adjust VR12 to obtain an attack time of 250msec ±10msec. See fig. 5.

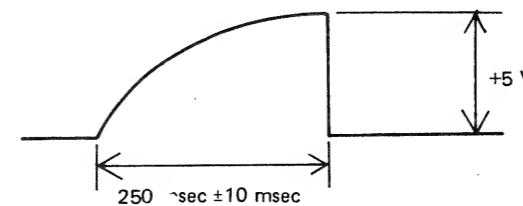


Fig. 5

5) Repeat steps 2) ~ 4) for units 0 ~ 5.  
 6) Set ATTACK to 10; leave others at setting 1).  
 Repeatedly play a single key and confirm that differences between the fade-out of the six notes are within 5 seconds and that all fade out within 15 ~ 25 seconds.  
 7) DECAY TIME check.  
 Set OCTAVE to 4', WAVEFORM to PW, PW/PWM to 10, CUTOFF to 2, RESONANCE to 10, EG INTENSITY to +3, DECAY to 8, SUSTAIN to 0, ARPEGGIO to ON, ARPEGGIO SPEED to 1 ~ 3, LATCH to ON, and KEY ASSIGN MODE to POLY. Leave others at normal.  
 Listen to each unit and check to see that there are no deviations.  
 8) RELEASE TIME check.  
 Set DECAY to 0, SUSTAIN to 10, and RELEASE to 8; leave others at same as 7) above.  
 Listen to each unit and check to see that there are no deviations.

5. KLM-368 check and adjustment.  
 (1) HEADPHONE AMP OFFSET adjustment.  
 1) Use normal setting. Connect oscilloscope and DVM to TP-4 (GND is TP-6). Adjust VR6 to obtain offset of 0mV ±20mV.  
 (2) HEADPHONE AMP LEVEL adjustment.  
 Set OCTAVE to 4'; leave others at normal. Check point is same as (1) above.  
 1) Play C3 and adjust VR5 to obtain a sawtooth waveform amplitude of 0.3Vp-p (±5%).  
 2) Check to be sure there is no waveform distortion at this point.  
 (3) OUTPUT AMP OFFSET adjustment.  
 Set WAVEFORM to PW, PW/PWM to 10, MG FREQUENCY to 7, LEVEL to 10, and MOD to VCA. Check SIG OUT (TP-5) with oscilloscope.  
 1) Adjust VR7 to minimize waveform amplitude. See fig. 6.

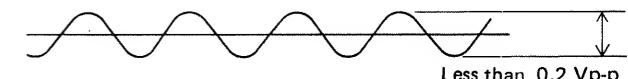


Fig. 6

(4) OUTPUT AMP LEVEL adjustment.  
 Set OCTAVE to 4'; leave others at normal.  
 1) Play C3 and adjust VR8 to obtain a sawtooth waveform amplitude of 3Vp-p (±5%).  
 2) Confirm that click noise occurring when power is turned off is less than volume of sound made by playing C3. DC click noise amplitude should be no greater than 6Vp-p.  
 (5) BBD CLOCK adjustment.  
 Set EFFECTS MODE to ENSEMBLE, SPEED/INTENSITY to 10. Leave others at normal.  
 1) Check TP-1 with oscilloscope.  
 2) Adjust VR1 to obtain maximum clock cycle of 30μsec. See fig. 7.

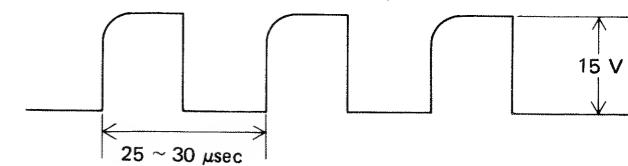


Fig. 7

3) Check TP-2 with oscilloscope.  
 4) Adjust VR2 to obtain maximum clock cycle of 30μsec.  
 5) Check TP-3 with oscilloscope.  
 6) Adjust VR3 to obtain maximum clock cycle of 30μsec.

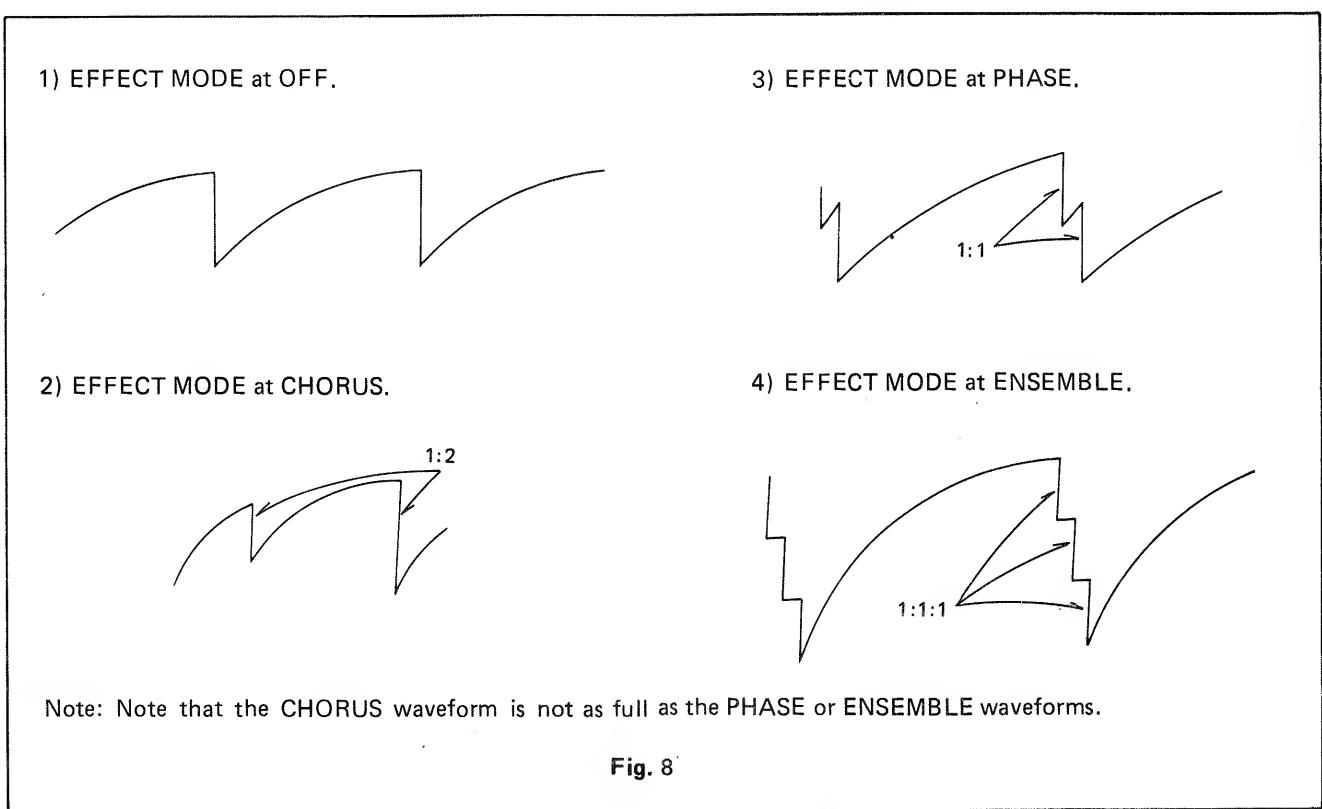
7) Set INTENSITY to 0 and check TP-3 with oscilloscope.  
 Set EFFECT to ENSEMBLE and confirm that the minimum ENSEMBLE clock time is  $4 \sim 8 \mu\text{sec}$ .  
 Set EFFECT to PHASE and confirm that maximum PHASE clock cycle is  $8 \sim 12 \mu\text{sec}$ , and minimum is  $1.5 \sim 3 \mu\text{sec}$ .

8) Set INT to 10 and confirm that maximum PHASE clock cycle is  $2.5 \sim 3.5 \mu\text{sec}$ , and minimum is  $1.0 \sim 2.0 \mu\text{sec}$ .

9) SET INT to 0 after completing the above.

10) Set EFFECT to CHORUS and confirm maximum clock cycle of  $16 \sim 22 \mu\text{sec}$ , and minimum of  $8 \sim 12 \mu\text{sec}$ .

(6) EFFECT WAVEFORM check.  
 Use normal setting and check TP-5 with oscilloscope (1V, 2msec.) Play C1 and check the various waveforms while switching from one EFFECT MODE to another.



## 9. PARTS LIST

PARTS NAME SPECIFICATIONS		PART CODE	Q'TY
<b>CARBON RESISTORS (Not listed)</b>			
<b>SOLID RESISTORS</b>			
1/4 KY	10M	11013810	5
	22M	11013822	1
<b>BLOCK RESISTORS</b>			
RKC1/8	B5J 10K	13435100	1
	B8J 10K	13635100	3
<b>METAL FILM RESISTORS</b>			
1/4FYLC	100Ω	12313100	1
	102	12313102	2
	243	12313243	1
	249	12313249	1
	324	12313324	1
	464	12313464	1
	499	12313499	1
	1.00K	12314100	10
	1.87	12314187	1
	2.00	12314200	1
	2.15	12314215	1
	3.16	12314316	5
	3.24	12314324	1
	4.53	12314453	1
	4.87	12314487	1
	10.0	12315100	10
	10.7	12315107	1
	11.3	12315113	1
	12.1	12315121	1
	12.7	12315127	1
	15.0	12315150	5
	17.4	12315174	1
	20.5	12315205	1
	21.5	12315215	1
	30.1	12315301	1
	36.5	12315365	1
	43.2	12315432	6
	49.9	12315499	3
	61.9	12315619	1
	66.5	12315665	1
	100 K	12316100	8
	301	12316301	2
	24.0	12315240	1
	27.0	12315270	6
	37.4	12315374	1
	68.0	12315680	1
	34.8	12315348	1
	523	12316523	
1/8 BY	100 K	12066100	6
	200	12066200	8
<b>SEMI-FIXED RESISTORS</b>			
10φ B	220 Ω (R)	35201122	3
	470	35201147	2
	2.2	35201222	6
	3.3	35201233	1
	4.7	35201247	1
	10	35201310	1
	15	35201315	1
	22	35201322	1
	47	35201347	1
	100	35201410	16
	15	SOLID	35001315
	100		35001410
	1MΩ		35001510

PARTS NAME SPECIFICATIONS		PART CODE	Q'TY
<b>MYLAR CAPACITORS</b>			
<b>CERAMIC CAPACITORS</b>			
50V	0.001 μF	20003410	4
	0.0012	20003412	8
	0.0022	20003422	4
	0.0033	20003433	1
	0.0047	20003447	2
	0.01	20003510	27
	0.022	20003522	3
	0.033	20003533	2
	0.047	20003547	45
	0.015	20003515	1
	0.1	20003610	2
	0.15	20003615	3
	0.0068 μF	20002468	18
<b>POLYPROPYLENE CAPACITORS</b>			
PPC	100V 6200PF	26000462	6
<b>ELECTROLYTIC CAPACITORS</b>			
50V	1 μF	23515110	11
	2.2	23515122	1
	3.3	23515133	4
25V	10	23511210	2
16V	10	23507210	46
	22	23507222	6
	47	23507247	2
	100	23507310	6
35V	2200	23613422	1
	4700	23613447	1
50V	0.33 MS	23315033	1
	2.2 "	23315122	2
16V	10 "	23307210	1
50V	1.5 "	23315115	1
<b>POTENTIOMETERS</b>			
EVH-5LA	802 B14	36005800	16
EVH-6LA	802 B14	36010800	1
EVH-5LA	802 C16	36007400	1
K1611	16KC	36014200	1
K1611008TE	10KB	36014000	1
<b>ROTARY SW</b>			
SRM-1033141		37002300	2
1034362		37001500	1
101B		37002600	1
<b>TACT SW</b>			
KHC-11901		37503400	19
<b>SLIDE SW</b>			
SSB-122019		37301000	4
	12300	37303500	5
	12202	37301200	2
SSS-322		37303400	2
1801-0121		37501600	1

PARTS NAME SPECIFICATIONS	PART CODE	Q'TY
<b>IC</b>		
HD14011BP	32004008	4
14013	32004009	3
14024	32004011	1
14027	32004025	6
14042	32004013	6
14051	32004017	10
14066	32004004	5
14069UBP	32004019	4
14070B	32004003	1
14174	32004020	1
14175	32004026	2
SN74LS04	32021028	1
74LS08	32021029	2
74LS75	32021030	4
LM13600N	32022006	4
13600N. SELECTED (RED)	32022091	1
324N	32021008	3
339C	32021027	1
MPC393C	32001027	5
NJM4560	32009006	4
4556	32009002	1
4558DV	32009001	27
TL071	32021013	1
072	32021011	10
μPD8048-345	32001037	1
8049-C217	32001036	1
TC-5514 APL-3	32003006	1
MC1408L8	32020023	1
MN3004	32002006	3
NE571	32025002	2
555	32021012	1
M5230L	32011001	1
SSM2044	32029004	6
2056	32029006	6
<b>TRANSISTORS</b>		
2SA733AK	30000727	15
2SA798G	30001007	4
2SB744AP	30100328	2
2SD794AP	30300528	2
2SC945AK	30200327	33
2SC945AK or P SELECTED	30200399	12
2SC1583 or F	30201106	4
<b>FET</b>		
2SK30A TM-GR	30600232	1
2SK30A TM-O	30600115	11
<b>DIODES</b>		
1S 1555	31000100	123
1S 1885	31000200	4
<b>ZENER DIODES</b>		
02BZ3.9A	31102000	1
<b>LED</b>		
PR3932S (φ3)	31201400	3
LT8001P	31201500	7
<b>PHOTO COUPLERS</b>		
HTV P-1501	33000800	1
<b>CRYSTAL OSCILLATOR</b>		
EFO-A6R0M01 (6 MHz)	33500900	2

PARTS NAME SPECIFICATIONS	PART CODE	Q'TY
<b>THERMISTORS</b>		
TD5-A110DA (100 Ω)	18032310	3
A150DA (500 Ω)	18032350	1
TD5-C210DA (1K)	18032410	1
C250DA (5K)	18032450	1
<b>PHONEJACK</b>		
STREO 0927#02	45300400	1
2P 0922#01	45300600	3
3P 0902#01	45300500	2
2P 0983#00	45300800	1
<b>BATTERY</b>		
150MAH 3.6V	52000900	1
<b>PCB</b>		
KLM-366	34036600	1
367	34036700	1
368	34036800	1
369	34036900	1
370	34037000	1
371	34037100	1
372	34037200	1
376	34037600	1
<b>POWER TRANSFORMER</b>		
TA-001 100V, 117V	40006200	1
TB-001 220V, 240V	40006300	1
<b>FUSE HOLDER</b>		
S-N5053	51501600	6
<b>SPARK KILLER</b>		
PME-271M533	21900300	1
<b>NOISE FILTER</b>		
TDK NOISE FILTER	12800100	1
<b>WOODEN CASE</b>		
KOC-D10005	64507900	1
<b>FRONT PANEL</b>		
KOC-C20111	64053500	1
<b>METAL FITTING OF KLM-369</b>		
KOC-C40399	64053600	2
<b>METAL FITTING OF KLM-371</b>		
KOC-C30179 2	64053800	1
KOC-C30179 1	64053700	1
<b>PHONE JACK PLATE</b>		
KOC-C30178	64054000	1
<b>POWER PLATE</b>		
KOC-C40397	64053400	1
<b>RADIATION BOARD</b>		
KOC-C40406	56001800	1
<b>METAL FITTING OF KLM-376</b>		
KOC-C40405	64053200	1
<b>CONTROL PANEL</b>		
KOC-E20028	64607900	1
<b>CONTROL WHEEL</b>		
KOC-E40091	64608000	2

PARTS NAME SPECIFICATIONS	PART CODE	Q'TY
<b>PCB RAIL</b>		
	64608200	1
<b>MODEL NUMBER PLATE</b>		
KOC-C40144	64050500	1
<b>KEY BOARD</b>		
ESK-701 61 KEYS	42001900	1

#### NOTE

**This is the modification in circuit. Please make necessary treatment for unmodified sets.**

- (1) Please fix yellow KBD wires to KBD chassis with cord keeper in order to keep the wires away from IC33 on PC-Board KLM-367. This modification prevents wrong operation of the programmer.
- (2) Connect the GND side of the battery on P.C.-board KLM-367 to GND No. R2, R3 and R4 on P.C.-board KLM-370.
- (3) CONNECT the GND of PHONE JACKS to shield sheet under KLM-368.
- (4) Modification to improve the higher frequency response has been made on KLM-368 in order to improve the tone quality from the June production. The circuit diagram in this manual fits for the modification.

Constants for the old production are as follows:

R167	2.2KΩ	R166	1KΩ
R197	10 KΩ	C78	0.0047μ
R196	100 KΩ		

#### OUTPUT AND LEVEL adjustment

Same setting as P23 (4).

Play C3 and adjust VR8 to obtain a sawtooth waveform, amplitude of 2.0Vp-p (±5%).

(5) The circuit diagram and the P-C Board for KLM-366 have been modified from the June production. Accordingly, adjustment procedure for KLM-366 has been changed as follows:

- 1) VCF for adjustment (Change in R58 and R64)  
Turn CUTOFF from 0 to 10 and check to see that each unit's oscillation frequency is 6.5~20 Hz at 0 and 25~31 KHz at 10. Amplitude should be at least 300mVp-p throughout.
- 2) KBD TRACK offset adjustment  
Same setting as p21 (6)  
Play C1 and turn the KBD TRACK knob from 0 to 10. Confirm that the difference between these two pitches is within 20 cents. If not, adjust VR-13.
- 3) PITCH check and adjustment  
VR15 on KLM-366 is equal to VR1 on KLM-396. Confirm that difference between 4' D#4 and E4 is within 2 cents. If necessary, adjust VR14.  
VR2 is used to adjust for deviation in higher pitch range totally for all the 6 units.

# MEMO

## KORG POLYSIX OWNERS MANUAL ADDENDUM

In addition to the information found in your Owner's Manual, we have prepared this Owner's Manual Addendum with supplemental information for your use.

### KEY ASSIGN MODE

#### 1) HOLD MODE

This function provides indefinite sustain for UNISON, CHORD MEMORY, and POLY Assign Modes. In effect, the synthesizer behaves as if the player was constantly holding down the note or notes played, and allows him to initiate a sound on the POLYSIX and then play other instruments at the same time.

**Note:** The Envelope Generator's SUSTAIN LEVEL control must be set to some value other than "0" for indefinite sustain, or sounds played in the HOLD mode may eventually disappear through the normal EG Decay function.

The effect will be different, depending on the Keyboard Assign mode selected. In UNISON mode, the last note played will sustain indefinitely, or until HOLD is cancelled. CHORD MEMORY works essentially the same, except that an interval or chord is sustained based on the last note played, rather than a single Unison note.

In POLY mode, each key played will activate the next voice in sequence, up to the maximum of 6, all with indefinite sustain; thus, a "note layering" effect is created. Beyond the maximum, the earliest notes are cancelled and re-assigned to the latest note or notes played, in the order originally played. This re-assignment function allows the user to create "overlapping" chordal effects, since the 6 most recently played notes will be the ones sounding at any given time.

In addition, notes can be "doubled up" by simply replaying them more than once in succession. Each key repetition will "stack" the next voice in sequence on that note, up to the maximum number available. This function is particularly useful when using the CHORD MEMORY function to create "weighted" chords by giving prominence to selected notes within the chord. For example, with POLY and HOLD modes activated, play C twice, G above once, and C one octave higher three times, and then depress CHORD MEMORY. The resulting monophonic sound is just as strong as in UNISON mode, and yet has a distinctive timbre which is unavailable by any other means.

Doubling also allows the remaining voices to be utilized whenever the memorized chord is less than 6 notes. (As an example, you can play a C and G three times each with POLY and HOLD modes activated, and then depress CHORD MEMORY. The resulting open fifth interval will utilize all six voices, and therefore possess considerably more power than the two voice sound that would have resulted without using HOLD. Once memorized, this interval can be recalled at any time by redepressing CHORD MEMORY.

MEMO